RECORD OF DISCUSSION OF THE EXCHANGE FUND ADVISORY COMMITTEE SUB-COMMITTEE ON CURRENCY BOARD OPERATIONS ON 5 NOVEMBER 1999

(Approved for Issue by the Exchange Fund Advisory Committee on 25 November 1999)

Currency Board Operations for the Period 30 September - 26 October 1999

The Sub-Committee noted that during the period under review the market exchange rate for the Hong Kong dollar had eased from 7.7680 to 7.7707, in line with the movement of the convertibility rate in respect of the Aggregate Balance. Some outflow of funds occurred in the first half of October in response to relatively low Hong Kong dollar interest rates. Further outflows occurred in the middle of October following a correction in the stock market. The convertibility undertaking was triggered on 1 October and during 13-15 October. As interest rates edged up in the third week of October, the flow of funds reversed. By the end of the reporting period the Aggregate Balance, which had in mid-October been forecast to fall to a negative level, was at HK$0.88 bn.

The Sub-Committee noted that changes in the monetary base throughout the period under review had been fully matched by corresponding changes in foreign reserves in accordance with the rules of the Currency Board system. The report on Currency Board operations for the period under review is at **Annex A**.

Report on Selected Millennium Indicators for the period 30 September - 26 October 1999

The Sub-Committee noted the regular monthly information paper on selected market indicators reflecting the Year 2000 positioning of market participants. Members noted that there had been a detectable increase in the three-month interbank rate for the Hong Kong dollar when trading first spanned into the new year, although this did not appear to be any sharper than for other currencies. Members also observed that the acceleration of the growth rate in cash holding by the public seemed to be attributable to the economic recovery rather than to any Year 2000 concerns.

Currency Options and the Defence of a Fixed Exchange Rate Regime

The Sub-Committee considered a paper examining the theory and practical implications of using currency options to assist in maintaining exchange rate stability under the currency board arrangements in Hong Kong. Members examined the growth and mechanics of options trading, the use of currency options in monetary management, and the various forms of currency options that might be suitable to Hong Kong's needs and conditions. The Sub-Committee considered that the writing of currency options by the HKMA appeared to be technically feasible and might be consistent with currency board principles if properly designed. The Sub-Committee further observed that, in theory at least, the writing of currency options by a central bank could be a useful tool in helping to stabilise exchange markets under certain conditions. The Sub-Committee concluded, however, that the theoretical benefits that might be offered by currency options seemed to be outweighed by the disadvantages that they could bring. These disadvantages included the complications that the writing of options would bring to the currency board system, and the possibility of negative perceptions that the HKMA was engaging in risky activities or lacked the means to support the currency board system in the spot market. The Sub-Committee also considered that the writing of options was not necessary in current conditions.

Hong Kong: Macroeconomic Impact of Recent Fiscal Measures

The Sub-Committee noted an information paper on the counter-cyclical impact of fiscal policy in Hong Kong's recent recession.

REPORT ON CURRENCY BOARD OPERATIONS (30 SEPTEMBER - 26 OCTOBER 1999)

During the reporting period, the market exchange rate for the Hong Kong dollar eased from 7.7680 to 7.7707, in line with the movement of the convertibility rate in respect of the Aggregate Balance. As interbank liquidity shrank on the back of some outflows of funds, local interbank interest rates firmed up moderately in the second half of the reporting period. The monetary base decreased from HK$201.01 bn to HK$197.21 bn, mainly due to a reduction in Certificates of Indebtedness. Changes in the monetary base were fully matched by corresponding changes in foreign reserves in accordance with the Currency Board arrangements.

Hong Kong Dollar Exchange Rate

The Hong Kong dollar exchange rate eased slightly from 7.7680 to 7.7707 during the reporting period, broadly matching the movement of the convertibility rate in respect of the Aggregate Balance. As Hong Kong dollar interest rates fell significantly in the last reporting period, with HIBOR of 1-month or below falling to levels close to or below their US dollar counterparts in late September and early October, **there were some outflows of funds from the Hong Kong dollar in the first half of October.** Selling orders on the Hong Kong dollar increased, and the Convertibility Undertaking was triggered on 1 October in the London market. **Further outflows of funds occurred in mid-October amid a correction in the local stock market.** The Hong Kong dollar exchange rate weakened subsequently to touch the convertibility rate during 13-15 October, **triggering the Convertibility Undertaking.** Thereafter, alongside a shrinkage of interbank liquidity, interest rates edged up moderately and the flows of funds reversed. As a result, the exchange rate strengthened slightly to 7.7692 on 21 October, 12 pips stronger than the convertibility rate. In response to offers from a few banks, the HKMA sold Hong Kong dollars for US dollars during 19-22 October. The Hong Kong dollar exchange rate closed at 7.7707 at the end of the period, 2 pips stronger than the convertibility rate of 7.7709 (Chart 1 and Chart 2).

Chart 1
HK$ Exchange Rate (closing rate)

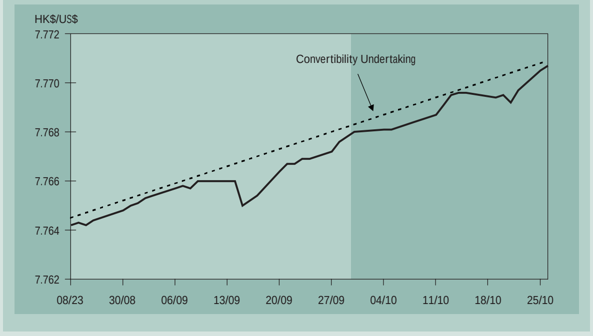


Chart 2
Effective Exchange Rate Index

Chart 3
HIBORs

Interest Rates

Interbank interest rates remained fairly stable in early October, but moved on a general uptrend from the third week of October. 1-month HIBOR eased moderately from 5.53% on 30 September to a low of 5.38% on 12 October. Amid some outflows of funds and a shrinkage of interbank liquidity, 1-month HIBOR firmed up and peaked at 5.78% on 19 October. As liquidity conditions improved alongside inflows of funds, it eased slightly to 5.56% on 25 October. 3-month HIBOR saw an increase of around 40 bp at end-September, along with the rise in corresponding US interest rates (as well as rates on other major currencies such as the Euro). This probably reflected the premium on loans straddling the end-year period for Year 2000 reasons. Through the rest of the period, 3-month HIBOR remained fairly stable at around 6.50%. **Longer-term interest rates were relatively stable during the reporting period.** 12-month HIBOR, for instance, moved within a narrow range of 7.13% and 7.25%. (Chart 3).

Interest rate volatility, measured in terms of the standard deviation of 1-month HIBOR (Chart 4), **declined** from 0.36 percentage points in September to 0.13 percentage points in October (up to 26 October).

Reflecting mainly movements in Hong Kong dollar interest rates, **the differential between shorter-term Hong Kong dollar and US dollar rates narrowed gradually until mid-October, while that of longer-term rates remained stable.** From a spread of 11 bp on 30 September, the differential in terms of the 1-month rate was completely closed in mid-October. Thereafter, reflecting a tightening of interbank liquidity, it widened again to 39 bp on 26 October. The spread in terms of 3-month money remained fairly stable at around 20-30 basis points during most of the period. (Chart 5).

Yields on Exchange Fund Bills and Notes increased slightly during the period. Influenced by the pick-up in US treasuries yields, the yields on 5-year and 10-year Exchange Fund notes increased by around 8 bp and 12 bp to 6.96% and 7.50% respectively during the period (Chart 6). Nevertheless, probably reflecting improved investor confidence, yield spreads between 5-year and 10-year Exchange Fund paper and their US counterparts narrowed by 24 bp and 18 bp respectively, to 75 bp and 118 bp at the end of the of period (Table 1).

Chart 4
Standard Deviation of 1-month HIBOR

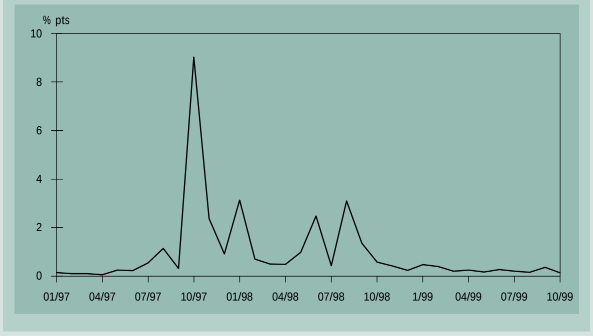


Chart 5
HK$ - US$ Interest Rate Differentials

Chart 6
Exchange Fund Paper Yield Curves

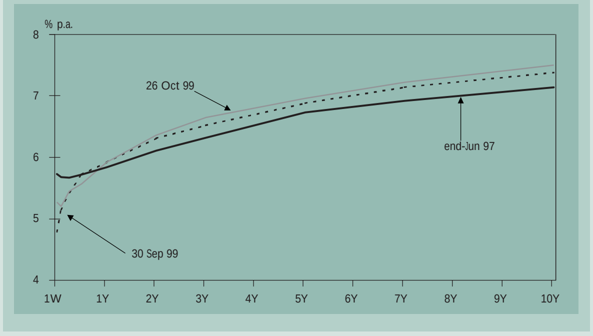


Table 1
Yield Spreads between Exchange Fund Paper and US Treasuries (basis points)

	27-Jun-97	30-Sep-99	26-Oct-99
3-month	56	60	35
1-year	21	67	33
3-year	3	63	60
5-year	27	99	75
10-year	54	136	118

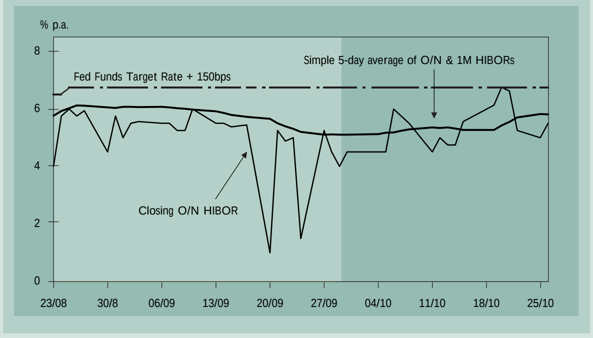
The savings rate under the Interest Rate Rules and **the best lending rate** offered by major **banks remained unchanged** at 3.75% and 8.50% respectively during the period under review. The weighted average deposit rate offered by 44 major authorised institutions for 1-month time deposits (which are outside the Interest Rate Rules) declined from 5.71% on 30 September to 5.61% on 15 October. Meanwhile, the effective deposit rate (taking into account the maturity of deposits) increased marginally from 4.36% in August to 4.38% in September (Chart 7).

Chart 7
Effective HK$ Deposit Rate

Base Rate

The Base Rate remained unchanged at 6.75% (150 basis points above the US Fed Funds Target Rate) throughout the reporting period. (Chart 8).

Chart 8
Base Rate and O/N HIBOR



Monetary Base

The monetary base, which comprises the outstanding amount of Certificates of Indebtedness, coins in circulation, the Aggregate Balance and the outstanding amount of Exchange Fund Bills and Notes, **decreased from HK$201.01 bn on 30 September to HK$197.21 bn on 26 October** (Table 2). Movements of individual components are discussed below.

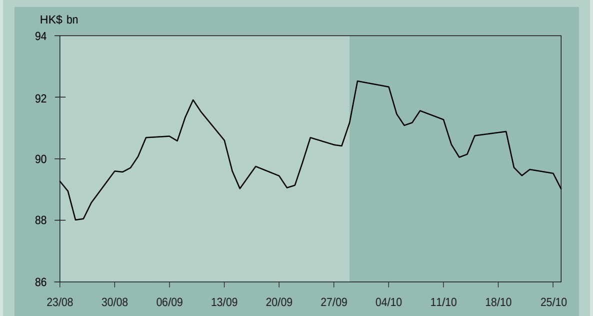
Table 2
Monetary Base

(HK$ bn)	30-Sep	26-Oct
CIs	92.58	89.05
Coins in Circulation	5.97	5.97
Aggregate Balance	1.44	0.88
Outstanding EFBNs	101.03	101.32
Monetary Base	201.01	197.21

Certificates of Indebtedness

From 30 September to 13 October, the three Note Issuing Banks (NIBs) redeemed a total of HK$2.49 bn of Certificates of Indebtedness (CIs) in exchange for US$0.32 bn. Thereafter, the NIBs submitted a total of US$0.11 bn to the Exchange Fund in exchange for HK$0.84 bn of CIs in mid-October. Another HK$1.88 bn of CIs was redeemed in late-October. Thus, over the whole period, there was **a moderate decrease in the outstanding amount of CIs** from HK$92.58 bn to HK$89.05 bn (Chart 9).

Chart 9
Certificates of Indebtedness



Coins

The total amount of **coins in circulation remained stable at** HK$5.97 bn during the period (Chart 10).

Aggregate Balance

Mainly reflecting a net outflow of funds, **the Aggregate Balance (before Discount Window activities) decreased from HK$1.44 bn on 30 September to HK$0.88 bn on 26 October** (Chart 11).

In response to some outflows of funds, the HKMA bought a total of HK$575 mn under the Convertibility Undertaking on 1 October, resulting in a shrinkage of Aggregate Balance from HK$1.44 bn on 30 September to HK$0.86 bn on 5 October. Another HK$1.6 bn were bought under the Convertibility Undertaking during 13-15 October, and the Aggregate Balance was at one point forecast to fall to a negative level of HK$0.5 bn. The resultant rise in interbank interest rates induced some buying interest on the Hong Kong dollars. In response to bank offers, the HKMA sold a total of HK$777 mn during 19-20 October, restoring the Aggregate Balance to a positive level. It further rose to HK$0.88 bn on 26 October consequent to the sale of another HK$777 mn by the HKMA on 22 October (Table 3).

During the period, **a total of HK$ 0.32 bn in interest payments on Exchange Fund Paper were made, while an additional HK$ 0.25 bn (market value) of Exchange Fund paper was issued to absorb the interest payments.** The remaining amount was carried forward in the Aggregate Balance.

Outstanding Exchange Fund Bills and Notes

During the period, **the market value of outstanding Exchange Fund paper increased marginally from HK$101.03 bn to HK$101.32 bn.** The increase was mainly a result of the additional net issue (referred to in paragraph 13 above). All issues of Exchange Fund Bills and Notes were well received by the market (Table 4). Probably reflecting banks' preference to hold Exchange Fund paper as collateral for Discount Window borrowing as part of their Year 2000 positioning, holdings of Exchange Fund paper by licensed

Chart 10
Coins in Circulation

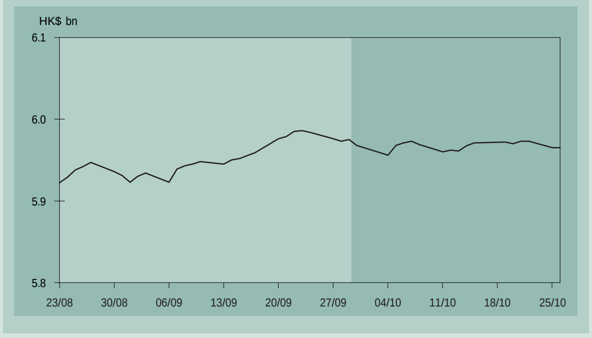


Chart 11
Aggregate Balance
(before Discount Window Activities)

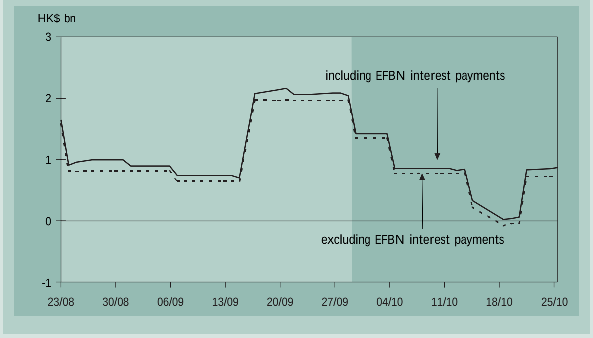


Table 3
HKMA HK$/US$ FX Transactions*
(30 September – 26 October)

Trade Date	Net HK$ purchase (+) / sale (-) (HK$ mn)
1 Oct	575
13 Oct	552
14 Oct	311
15 Oct	738
19 Oct	-233
20 Oct	-544
22 Oct	-777

* *FX transactions may be due for settlement today, on the next business day, or the day after, at which point they would affect the Aggregate Balance.*

Table 4
Issuance of EF Paper
(30 September – 26 October)

	No. of issues launched	Over-subscription ratio
1-month EFB	2	1.87-2.53
3-month EFB	3	1.90-3.74
6-month EFB	2	2.00-4.00
3-year EFN	1	2.32

banks before Discount Window activities (in terms of market value) increased steadily from HK$83.23 bn (or 82.4% of total) on 30 September to HK$83.86 bn (or 82.8% of total) on 26 October (Chart 12).

Discount Window Activities

The Discount Window provides banks access to overnight liquidity to facilitate their cash flow management, and hence helps to ensure the smooth functioning of the interbank payment system. Bank's access is unrestricted in respect of borrowings collateralised against Exchange Fund paper. During the period under review, discount window activities increased slightly alongside a shrinkage of interbank liquidity. **Banks borrowed a total of HK$4.56 bn** from the HKMA through the Discount Window, representing a daily average of HK$217 mn as compared with HK$135 mn in the last reporting period. (Chart 13).

A total of 30 banks borrowed overnight liquidity through the Discount Window (Table 5). Most banks used the Discount Window facility only infrequently.

Almost all the borrowings made during the period were collateralised against Exchange Fund Bills and Notes. There were three occasions on which banks borrowed an amount exceeding 50% of their holdings of Exchange Fund paper.

Backing Portfolio

Due to a reduction of the monetary base during the reporting period, the value of backing assets declined by HK$3.39 bn. **The backing ratio increased marginally from 110.49% on 30 September to 110.77% on 26 October.** Under the linked exchange rate system, although specific Exchange Fund assets have been designated for the Backing Portfolio, all Exchange Fund assets are available to support the Hong Kong dollar exchange rate.

Chart 12
EF Paper Held by Licensed Banks

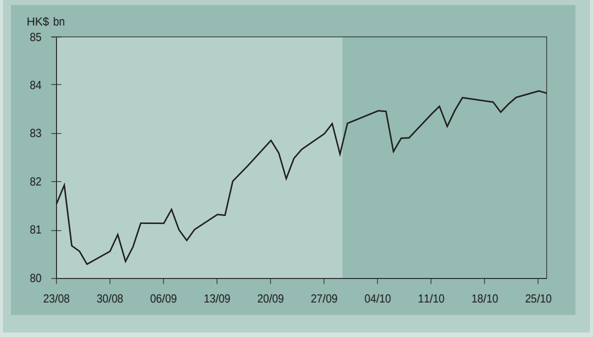


Chart 13
Discount Window Borrowing

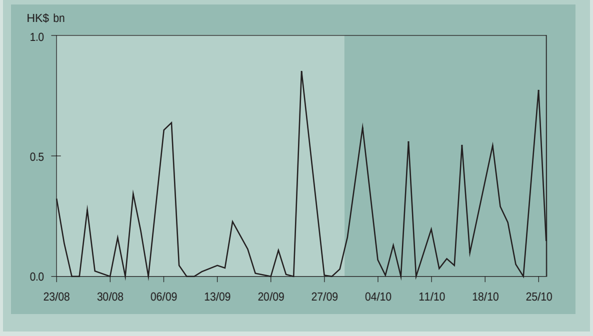


Table 5
Frequency of Individual Bank's Access to the Discount Window (30 September – 26 October)

Frequency of using Discount Window	No. of banks
1	20
2	5
3	3
4	1
>4	1
Total	**30**

RECORD OF DISCUSSION OF THE EXCHANGE FUND ADVISORY COMMITTEE SUB-COMMITTEE ON CURRENCY BOARD OPERATIONS ON 3 DECEMBER 1999

(Approved for Issue by the Exchange Fund Advisory Committee on 16 December 1999)

Currency Board Operations for the Period 27 October - 24 November 1999

The Sub-Committee noted that, during the period covered by the report, there had been a substantial inflow of funds into the Hong Kong dollar. Further inflows had continued beyond the reporting period, driven by the generally positive economic news for Hong Kong, the agreement reached between China and the US on the terms of the Mainland's entry into the World Trade Organisation, and perceptions of Hong Kong as a safe haven for the Year 2000. As a result, during the reporting period, the market exchange rate of the Hong Kong dollar had strengthened slightly relative to the convertibility rate, and had continued to strengthen in early December. Interbank liquidity had increased, and local interbank interest rates had shown a general decline, with the lowest spread between US dollar and Hong Kong dollar rates at the one-year horizon since the Asian financial crisis began. Because of the high liquidity, the best lending rate for the Hong Kong dollar had remained unchanged, despite the 25 bp increase in US interest rates. Members noted that high liquidity appeared also to have eased concerns about a tightening of monetary conditions as the Year 2000 approached.

The Sub-Committee noted that changes in the monetary base had been fully matched by corresponding changes in foreign reserves in accordance with the Currency Board arrangements.

The report on Currency Board operations for the period under review is at **Annex A**.

Report on Selected Millennium Indicators for the period 27 October - 24 November 1999

The Sub-Committee noted the regular monthly information paper on selected market indicators reflecting the Year 2000 positioning of market participants. Members observed that the indicators continued to be generally stable and in line with those for other markets. Cash holding by the general public had continued to increase, although it appeared to be attributable more to economic recovery than to Year 2000 concerns, and had remained stable as a percentage of Hong Kong dollar M1. A rise in 2-month HIBOR rates had occurred at the end of October (along with a further, similar rise in 1-month rates at the end of November), reflecting a premium on borrowing straddling the new year: a similar trend was observable for other major currencies. Members noted that there had so far been no use of the enlarged Discount Window facilities introduced on 15 November and that, in fact, there had been a decline even in the use of normal Discount Window facilities owing to the high level of the Aggregate Balance.

Implications of Electronic Money

The Sub-Committee considered a paper examining the nature and monetary implications of electronic payment instruments. Members noted that, while there was great variety among these different instruments, and while not all of them could be clearly defined as money, their growing popularity had implications for the use of money generally, and raised questions about whether the growth of electronic money would undermine monetary control.

Members concluded that, given the present monetary arrangements in Hong Kong and the importance of the Aggregate Balance, rather than cash, in the operation of the Currency Board system, it appeared unlikely that the growth of electronic money in Hong Kong would undermine monetary control. Members further considered that it was not desirable or necessary at this stage to grant legal tender status to electronic cash. They observed that practical problems would in any case arise if all businesses were required to install machines to handle the various forms of electronic cash now in use.

Members examined the question of whether some form of backing requirement should be introduced for electronic payment instruments that were close substitutes for cash. They considered that, given the current early stage of development of electronic money, such a requirement was not necessary. Members also concluded that it would be premature to introduce legislation to require issuers to redeem electronic money on request for conventional payment instruments, although measures of this kind might be worth considering in the future.

Members considered the implications of the growth of electronic money on seignorage, concluding that the potential loss of seignorage under current conditions was not particularly large. Nor was it likely to affect the robustness of the Currency Board arrangements.

With regard to the question of whether the HKMA should look into the feasibility of participating in the issue of electronic payment instruments, the Sub-Committee advised that this was undesirable at present, since it might have the effect of stifling private sector initiatives. They observed, however, that there might be a case for returning to this question at some time in the future, particularly if the market for electronic money developed to the point at which consideration of a unified system became relevant.

REPORT ON CURRENCY BOARD OPERATIONS (27 OCTOBER - 24 NOVEMBER 1999)

On the back of some inflows of funds, the market exchange rate for the Hong Kong dollar strengthened slightly relative to the convertibility rate in respect of the Aggregate Balance. Interbank liquidity increased and local interbank interest rates were on a general downtrend. The high liquidity of the banking sector resulted in the Hong Kong Association of Banks (HKAB) governed deposit rates and the Hong Kong best lending rate remaining unchanged in the face of a 25 bp hike in US interest rates. It has also eased concerns over a significant tightening of monetary conditions as Year 2000 approaches. During the period, the monetary base increased from HK$197.07 bn to HK$200.09 bn, mainly due to a rise in the Aggregate Balance. Changes in the monetary base were fully matched by corresponding changes in foreign reserves in accordance with the Currency Board arrangements.

Hong Kong Dollar Exchange Rate

Amid some inflows of funds, reportedly to be largely equity-related, **the Hong Kong dollar exchange rate strengthened** to 7.7692 on 2 November, 24 pips stronger than the convertibility rate. Alongside an improvement in liquidity as the HKMA sold some Hong Kong dollars in response to bank offers in late October, Hong Kong dollar interest rates eased significantly. **The exchange rate also started to ease in early November,** from 7.7692 in early November to 7.7729 on 17 November, broadly matching the movement of the convertibility rate in respect of the Aggregate Balance. Thereafter, the Hong Kong dollar exchange rate strengthened again on the back of continued inflows of funds. It closed at 7.7721 on 24 November, 17 pips stronger than the convertibility rate (Chart 1 and Chart 2).

Chart 1
HK$ Exchange Rate (closing rate)

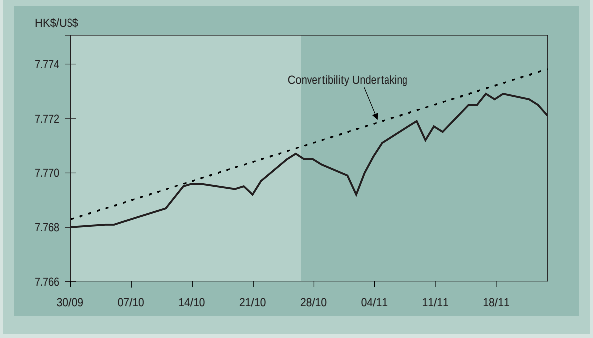
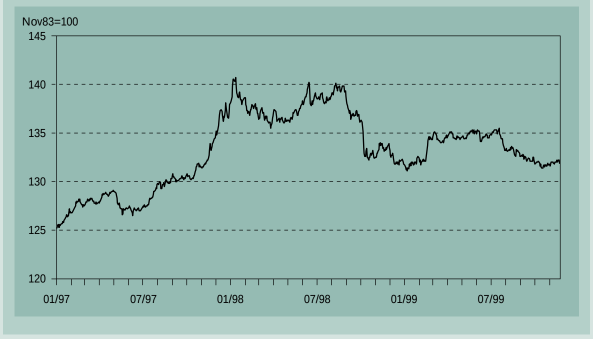


Chart 2
Effective Exchange Rate Index



Interest Rates

Interbank interest rates firmed slightly in late October, but moved on a general downtrend from the first week of November. 1-month HIBOR increased from 5.88% on 27 October to 6.19% on 29 October, partly due to month-end effects. Thereafter, liquidity increased on the back of some inflows of funds, driven by the favourable reception to the Tracker Fund of Hong Kong (TraHK), buoyant stock market activity and the agreement reached between China and the US on the terms of the Mainland's entry into the WTO. 1-month HIBOR eased significantly and stayed below corresponding US dollar LIBOR in the third week of November. **It firmed slightly** from 5.44% on 17 November to 5.63% on 24 November,

Chart 3
HIBORs

following the upward adjustment in US policy rates on 16 November. 3-month HIBOR followed broadly the same movements as 1-month HIBOR, easing from 6.56% to 6.28% during the period. **Longer-term interest rates also softened.** 12-month HIBOR, for instance, declined slightly from 7.19% to 6.88% (Chart 3).

Interest rate volatility, measured in terms of the standard deviation of 1-month HIBOR (Chart 4), **declined** from 0.22 percentage points in October to 0.12 percentage points in November (up to 24 November). The subscription monies from the TraHK IPO were recycled smoothly, causing no disturbance to the money markets.

The spreads between Hong Kong dollar interest rates and their US dollar counterparts narrowed. The differential in terms of the 1-month rate, which stood at around 50 bp in late October, was completely closed in early November and became negative during mid-November. Towards the end of the period, 1-month HIBOR firmed slightly and closed at 5 bp above the corresponding US interest rate (Chart 5).

Yields on Exchange Fund Bills and Notes declined slightly during the period. The yields on 5-year and 10-year Exchange Fund notes fell by around 11 bp and 5 bp to 6.89% and 7.51% respectively during the period (Chart 6). However, **the yield spreads** between 5-year and 10-year Exchange Fund paper and the US treasuries **widened** slightly by 3 bp and 12 bp respectively, to 75 bp and 130 bp at the end of the of period (Table 1).

Chart 4
Standard Deviation of 1-month HIBOR

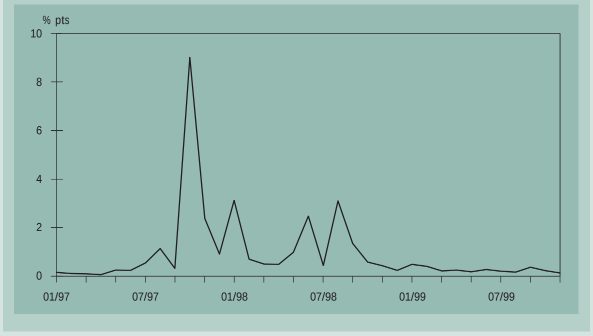


Chart 5
HK$ - US$ Interest Rate Differentials

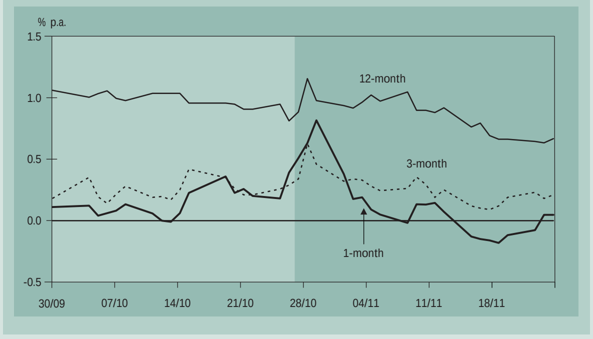


Chart 6
Exchange Fund Paper Yield Curves

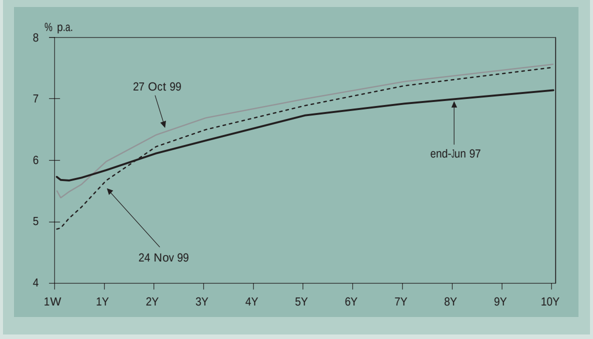


Table 1
Yield Spreads between Exchange Fund Paper and US Treasuries (basis points)

	27-Jun-97	27-Oct-99	24-Nov-99
3-month	56	24	-28
1-year	21	34	-2
3-year	3	57	39
5-year	27	72	75
10-year	54	118	150

Largely reflecting ample liquidity in the banking sector, **the savings rate** under the Interest Rate Rules and **the best lending rate** offered by major **banks remained unchanged** at 3.75% and 8.50% respectively despite the 25 bp hike in the US Fed Funds Target Rate and Discount Rate on 16 November. The weighted average deposit rate offered by 44 major authorised institutions for 1-month time deposits (which are outside the Interest Rate Rules) declined slightly from 5.94% on 29 October to 5.58% on 19 November. Meanwhile, the effective deposit rate (taking into account the maturity of deposits) decreased marginally from 4.38% in September to 4.37% in October (Chart 7).

Base Rate

Following the 25 bp rise in the US Fed Funds Target Rate on 16 November, **the Base Rate was adjusted upwards on 17 November by 25 bp to 7.0%** (150 basis points above the US Fed Funds Target Rate) and remained at that level during the rest of the period (Chart 8).

Monetary Base

The monetary base, which comprises the outstanding amount of Certificates of Indebtedness, coins in circulation, the Aggregate Balance and the outstanding amount of Exchange Fund Bills and Notes, **increased from HK$197.07 bn on 27 October to HK$200.09 bn on 24 November** (Table 2). Movements of individual components are discussed below.

Certificates of Indebtedness

In response to an increase in cash demand for month-end transactions, the three Note Issuing Banks (NIBs) submitted a total of US$0.36 bn to the Exchange Fund in exchange for HK$2.84 bn of Certificates of Indebtedness (CIs) from 27 October to 5 November. Thereafter, the NIBs redeemed a total of HK$2.03 bn of Certificates of Indebtedness (CIs) in exchange for US$0.26 bn. Thus, over the whole period, there was **a moderate increase in the outstanding amount of CIs** from HK$88.97 bn to HK$89.78 bn (Chart 9).

Chart 7
Effective HK$ Deposit Rate

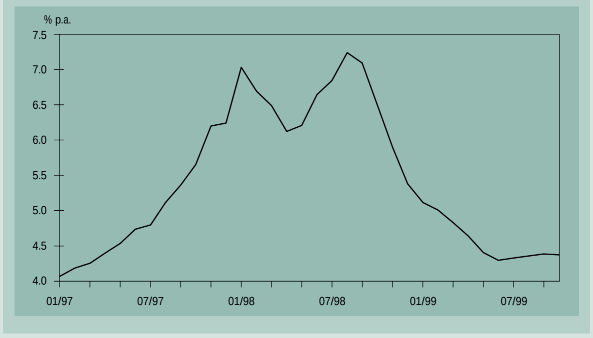


Chart 8
Base Rate and O/N HIBOR

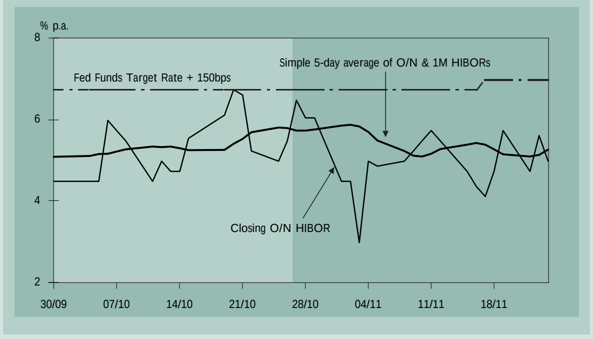


Table 2
Monetary Base

(HK$ bn)	27-Oct	24-Nov
CIs	88.97	89.78
Coins in Circulation	5.97	5.95
Aggregate Balance	0.84	2.37
Outstanding EFBNs	101.30	101.99
Monetary Base	197.07	200.09

Chart 9
Certificates of Indebtedness

Coins

The total amount of **coins in circulation remained stable at** around HK$5.95 bn during the period (Chart 10).

Aggregate Balance

On the back of a net inflow of funds and a strengthening of the exchange rate, the HKMA sold a total of HK$1.55 bn on 29 October in response to bank offers (Table 3). For the period as a whole, **the Aggregate Balance (before Discount Window activities) increased from HK$0.84 bn on 27 October to HK$2.37 bn on 24 November**[1] (Chart 11).

During the period, **a total of HK$0.51 bn in interest payments on Exchange Fund paper were made.** Together with the interest payments carried forward from the last reporting period, **an additional HK$0.58 bn (market value) of Exchange Fund paper was issued to absorb the interest payments.**

Outstanding Exchange Fund Bills and Notes

During the period, **the market value of outstanding Exchange Fund paper increased marginally from HK$101.3 bn to HK$101.99 bn.** The increase was mainly a result of the additional net issue (referred to in paragraph 12 above). All issues of Exchange Fund Bills and Notes were well received by the market (Table 4). In preparation for increased interbank transfers associated with TraHK IPO, holdings of Exchange Fund paper by licensed banks before Discount Window activities (in terms of market value) increased from HK$82.96 bn (or 81.9% of total) on 27 October to HK$84.58 bn (or 83.4% of total) on

Chart 10
Coins in Circulation

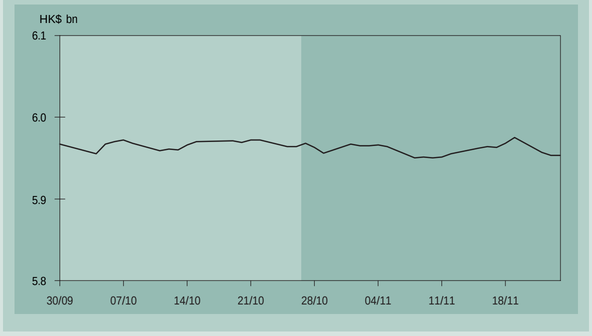


Table 3
HKMA HK$/US$ FX Transactions*
(27 October – 24 November)

Trade Date	Net HK$ purchase (+) / sale (-) (HK$ mn)
29 Oct	-1,553

* *FX transactions may be due for settlement today, on the next business day, or the day after, at which point they would affect the Aggregate Balance.*

Chart 11
Aggregate Balance
(before Discount Window Activities)

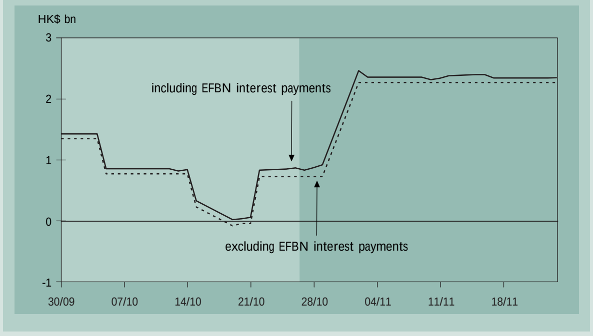


Table 4
Issuance of EF Paper
(27 October – 24 November)

	No. of issues launched	Over-subscription ratio
1-month EFB	4	1.41-2.65
3-month EFB	5	1.13-3.49
6-month EFB	2	1.82-1.96
12-month EFB	2	2.34-4.35
2-year EFN	1	4.51

1 During the reporting period, the HKMA purchased US dollars with some of the proceeds of the TraHK IPO. These transactions were related to the investment activity of Exchange Fund, and hence outside the Currency Board. In other words, they had no net impact on the Aggregate Balance.

1 November. Thereafter, as interbank liquidity conditions eased and the IPO was completed, banks' holding of Exchange Fund paper declined slightly to HK$83.49 bn (or 81.9% of total) on 24 November (Chart 12).

Discount Window Activities

The Discount Window provides banks access to overnight liquidity to facilitate their cash flow management, and hence helps to ensure the smooth functioning of the interbank payment system. Bank's access is unrestricted in respect of borrowings collateralized against Exchange Fund paper. **The enlarged Discount Window** through which licensed banks may obtain liquidity support using a wider spectrum of quality Hong Kong dollar debt papers in the Year 2000 critical periods, **has commenced operation since 15 November. There was, however, no borrowing using paper other than those eligible under the normal Discount Window facility** during the reporting period. Over the whole period under review, **banks borrowed a total of HK$1.86 bn** from the HKMA through the Discount Window, representing a daily average of HK$74 mn, considerably lower than the HK$217 mn in the preceding period. (Chart 13).

A total of 20 banks borrowed overnight liquidity through the Discount Window (Table 5). Most banks used the Discount Window facility only infrequently.

All the borrowings made during the period were collateralized against Exchange Fund Bills and Notes. There was one occasion on which bank borrowed an amount exceeding 50% of its holdings of Exchange Fund paper.

Backing Portfolio

Largely owing to net investment income, the value of backing assets rose faster than the monetary base. As a result, **the backing ratio increased slightly from 110.78% on 27 October to 111.04% on 24 November.** Under the linked exchange rate system, although specific Exchange Fund assets have been designated for the Backing Portfolio, all Exchange Fund assets are available to support the Hong Kong dollar exchange rate.

Chart 12
EF Paper Held by Licensed Banks

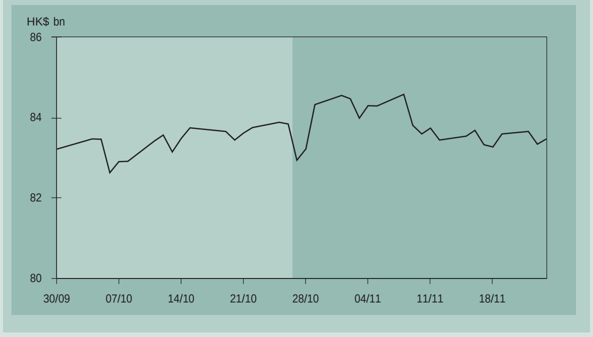


Chart 13
Discount Window Borrowing

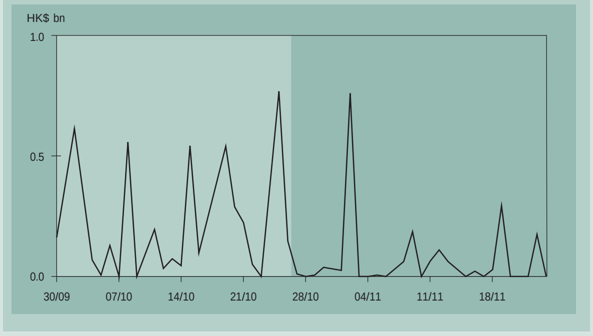


Table 5
Frequency of Individual Bank's Access to the Discount Window (27 October – 24 November)

Frequency of using Discount Window	No. of banks
1	16
2	2
3	1
4	1
>4	0
Total	**20**

RECORD OF DISCUSSION OF THE EXCHANGE FUND ADVISORY COMMITTEE SUB-COMMITTEE ON CURRENCY BOARD OPERATIONS ON 7 JANUARY 2000

(Approved for Issue by the Exchange Fund Advisory Committee on 20 January 2000)

Currency Board Operations for the Period 25 November - 30 December 1999

The Sub-Committee noted that during the period covered by the report there was continued strong demand for Hong Kong dollar investments as a result of positive economic news, increased activity in the equity market, and perceptions of Hong Kong as a Year 2000 safe haven. The market exchange rate for the Hong Kong dollar strengthened moderately relative to the convertibility rate in respect of the Aggregate Balance. Interbank interest rates moved on a general up trend to the last business day of 1999, reflecting partly a premium on interbank borrowing straddling 1 January 2000. The monetary base increased from HK$200.18 bn to HK$234.63 bn during this period, reflecting seasonal demand for cash during the holiday period and an increase in cash holdings as the Year 2000 drew near. Members noted that the Aggregate Balance was as high as HK$7.96 bn on 30 December, its highest level since the introduction of the seven technical measures in September 1998.

The report on Currency Board operations for the period under review is at **Annex A**.

Report on Selected Millennium Indicators for the period 25 November - 30 December 1999

The Sub-Committee noted the last of the regular monthly reports on selected millennium indicators, which covered the period from 25 November to 30 December 1999. Members observed that the smooth transition of Hong Kong's financial sector into the Year 2000 had been accompanied by a generally confident and rational approach to the issue in the markets and among the general public. Banknotes in circulation had increased significantly during the period under review, with the outstanding amount of Certificates of Indebtedness rising from HK$91.7 bn at the end of November, to HK$109.2 bn ahead of the Christmas holidays, and further to HK$118.2 bn at the end of December. This increase of HK$26.5 bn during the month of December compared with a usual increase of around HK$5 bn during the Christmas period over the past few years. The increase in banknotes in circulation reflected an increase in cash holdings by both banks and the general public.

The Sub-Committee noted an increase during the period under review in the proportion of Exchange Fund paper held by banks (from 82% to 87%) and a moderate widening of the differential between HIBOR and the yields on Exchange Fund Bills and Notes. This reflected the strong demand for Exchange Fund paper from banks resulting from both the high liquidity in the banking system and the demand for Exchange Fund paper for the purpose of liquidity management as the Year 2000 drew near. Members observed that the differential had narrowed since the passage into the new year. Members further noted a kink in the Hong Kong dollar yield curve in the 1-week area in late December, a phenomenon that was also observable for other major currencies.

The Sub-Committee noted that no use had so far been made of the enlarged Discount Window facility or of the term repo facility introduced in the context of the Year 2000 issue, and that even borrowing under the regular Discount Window had declined substantially as a result of the increased liquidity in the banking system.

Movement of the Backing Ratio

Further to its consideration of various scenarios relating to movements in the backing ratio at its meeting in March 1999, the Sub-Committee considered a paper on policy issues relating to the movement of the backing ratio. Members noted the analyses in the paper of past movements and future projections of the backing ratio. In general, the backing ratio had been gradually rising from around 108% at the end of 1998 to 111% at the end of November 1999. According to projections, the backing ratio was expected to continue to rise over the course of the next twelve months. Members noted that, in general, three factors affected the movement of the backing ratio: autonomous changes in the monetary base; net investment income; and revaluation gains and losses. Of these factors, net investment income was the main driving force behind the rise.

Given the continuing rise in the backing ratio, and the fact that the assets in the backing portfolio, because of the requirement that they be highly liquid, generally earn a lower rate of return than do those in the investment portfolio, the Sub-Committee considered

Note: The Financial Secretary, on the advice of the Exchange Fund Advisory Committee (EFAC), has approved the arrangements for the transfer of funds between the backing and investment portfolios recommended by the Sub-Committee in the paragraphs under the heading of "Movement of the Backing Ratio."

various options for containing or reducing the ratio, through either expanding the monetary base or transferring excess assets out of the backing portfolio.

With regard to the option of enlarging the monetary base, Members concluded that the only practical way of achieving this would be through deliberate issuance of additional Exchange Fund paper (which would, via market forces, attract roughly equivalent inflows, thereby increasing the monetary base and lowering the backing ratio). Members noted, however, that there were already clear guidelines for issuance of Exchange Fund paper, which were operating smoothly, and that there was no economic rationale for allowing movements in the backing ratio to determine adjustments to the monetary base. It was also noted that in some circumstances private sector debt issuance might be crowded out by additional Exchange Fund paper. In sum, Members were not attracted by this option.

Members preferred that a framework should be established whereby surplus assets in the backing portfolio could be transferred to the investment portfolio. They concluded that it would be desirable to establish a trigger point for the backing ratio that would stop it rising above a particular level; and that, in the event of the ratio falling rather than rising, there should similarly be a lower trigger point at which assets would be injected into the backing portfolio.

Specifically, the Sub-Committee recommended that on the high side the trigger point should be set at 112.5%; normally, when the backing ratio reached this point, assets should be moved out of the backing portfolio, sufficient to reduce the ratio to 110%. On the other side, it was recommended that 105% be set as the trigger point at which, normally, assets would be transferred into the backing portfolio, sufficient to restore the ratio to 107.5%. This formula provided symmetry and the arrangements would ensure that there would always be adequate, liquid assets in the backing portfolio, while allowing assets which were clearly surplus to the narrow needs of that portfolio to be managed more flexibly in the investment portfolio. Moreover, there would be no effect on the monetary base.

Settlement of Foreign Exchange Transactions Conducted by the HKMA

The Sub-Committee considered a paper on the settlement of foreign exchange transactions conducted by the HKMA. Members explored the question of whether, in order possibly to improve the interest rate adjustment mechanism, there was a need to offer the Convertibility Undertaking on a T+0 rather than a T+2 basis. The Sub-Committee also considered the question of whether the practice of retaining flexibility to sell Hong Kong dollars on the strong side on a T+0 basis should continue. Members advised that, while it would be technically feasible to move the Convertibility Undertaking to a T+0 basis, the status quo should continue because it reflected market convention and because no clear benefits were apparent in a proposed change in the arrangements. Members also advised that the flexibility to sell Hong Kong dollars on the strong side on a T+0 basis should also continue and that the T+0 rate quoted in such cases should continue to be determined by reference to the spot (T+2) rate in the market and the differential between the Hong Kong dollar rate at which two-day funding might have been available to the counterparty and US dollar short-term market interest rates. Members considered, however, that changing circumstances (such as changing market conventions or the introduction of a two-way Convertibility Undertaking) could warrant a revisiting of the present arrangements.

Future Meetings

The Sub-Committee considered its schedule of meetings for the coming year and decided that, in the absence of any urgent issues for which special meetings might need to be arranged, future meetings should take place once every two months.

REPORT ON CURRENCY BOARD OPERATIONS (25 NOVEMBER - 30 DECEMBER 1999)

On the back of continued inflows of funds, the market exchange rate for the Hong Kong dollar strengthened moderately relative to the convertibility rate in respect of the Aggregate Balance. While interbank liquidity rose further, local interbank interest rates for borrowing that spanned the end-year period firmed moderately before easing on the last trading day of 1999. The monetary base increased from HK$200.18 bn to HK$234.63 bn during the period, mainly due to increases in the outstanding amount of Certificates of Indebtedness and the Aggregate Balance. The former reflected partly seasonal demand for cash around Christmas and New Year, and partly an increase in cash holdings as the Year 2000 drew near. Changes in the monetary base were fully matched by corresponding changes in foreign reserves in accordance with the Currency Board arrangements.

Hong Kong Dollar Exchange Rate

Amid continued inflows of funds on the back of positive economic news and market perceptions of Hong Kong as a Year 2000 safe haven, **the Hong Kong dollar exchange rate strengthened** to 7.7688 on 30 November, 56 pips stronger than the convertibility rate. Interbank liquidity also increased towards end-November, as the HKMA sold Hong Kong dollars in response to bank offers. Hong Kong dollar interest rates consequently softened, and **the exchange rate started to ease in early December.** From mid-December on, as inflows of funds, reportedly to be largely equity-related, resurfaced, **the Hong Kong dollar exchange rate strengthened** to 7.7682 on 23 December. It closed at 7.7734 on 30 December, 40 pips stronger than the convertibility rate (Chart 1 and Chart 2).

Chart 1
HK$ Exchange Rate (closing rate)

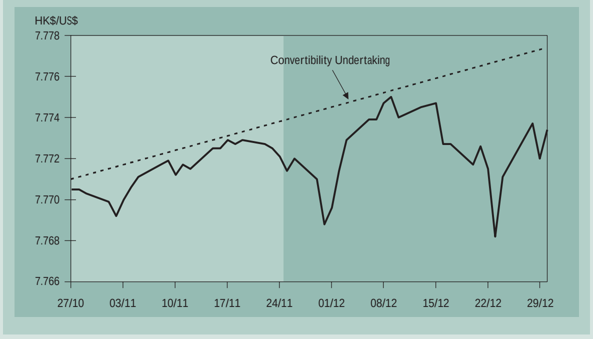
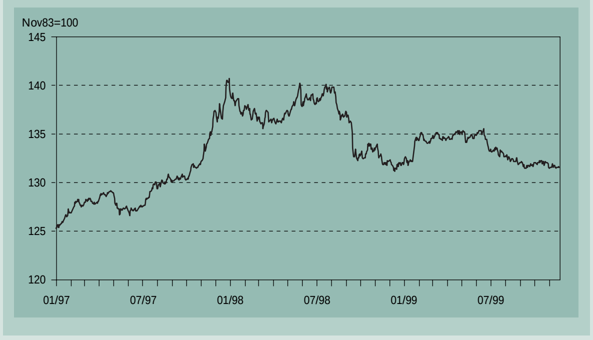


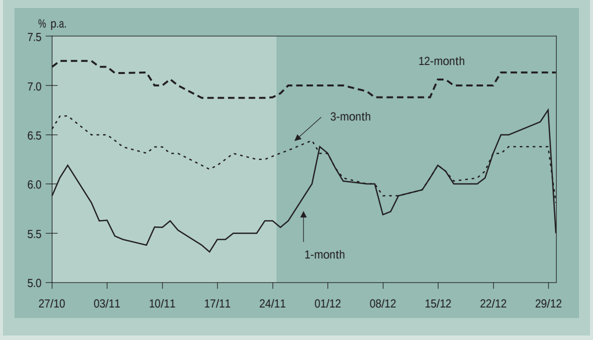
Chart 2
Effective Exchange Rate Index



Interest Rates

Despite relaxed liquidity conditions, **interbank interest rates moved on a general uptrend until the last business day of 1999.** Reflecting partly month-end effects and partly a premium on interbank borrowing straddling 1 January 2000, 1-month HIBOR rose from 5.56% on 25 November to 6.38% on 30 November. Thereafter, on the back of high interbank liquidity, 1-month HIBOR eased slightly to 5.69% on 8 December, before firming up again to 6.75% on 29 December. It then eased by 125 bp to 5.50% on the last trading day of 1999, as banks had largely arranged for adequate funding and some started to place out surplus liquidity in anticipation of the safe rollover into Year 2000. 3-month HIBOR followed broadly the same movements as 1-month HIBOR, closing at 5.81%

Chart 3
HIBORs



on 30 December, 50 bp below that at the beginning of the reporting period. **Longer-term interest rates firmed.** 12-month HIBOR, for instance, increased slightly from 6.92% to 7.13% (Chart 3).

Interest rate volatility, measured in terms of the standard deviation of 1-month HIBOR (Chart 4), **increased** from 0.23 percentage points in November to 0.31 percentage points in December.

Short-term Hong Kong dollar interest rates stayed below their US dollar counterparts for most of the period. Reflecting high Hong Kong dollar liquidity in the banking system, 1-month HIBOR fell to 76 bp below its US dollar counterpart on 9 December. Thereafter, the spread gradually diminished until late December, as Hong Kong dollar interest rates firmed. Interest rates became rather volatile towards the close of the year. On 29 December, on the back of an easing in US dollar interest rates, the spread in terms of 1-month rate widened to 100 bp. When 1-month HIBOR subsequently eased on the following day, the spread narrowed to -30 bp (Chart 5).

Largely reflecting the strong demand for short-term Exchange Fund paper by banks ahead of Year 2000, **yields on short-term Exchange Fund paper declined. However, yields on long-term paper increased during the period,** along with the rise in the US Treasury yields. The yields on 5-year and 10-year Exchange Fund notes increased by 21 bp and 24 bp to 7.10% and 7.74% respectively during the period (Chart 6). Nevertheless, **the yield spreads** between 5-year and 10-year Exchange Fund paper and US Treasuries **narrowed** slightly by 6 bp and 10 bp respectively, to 72 bp and 122 bp at the end of the period (Table 1).

Chart 4
Standard Deviation of 1-month HIBOR

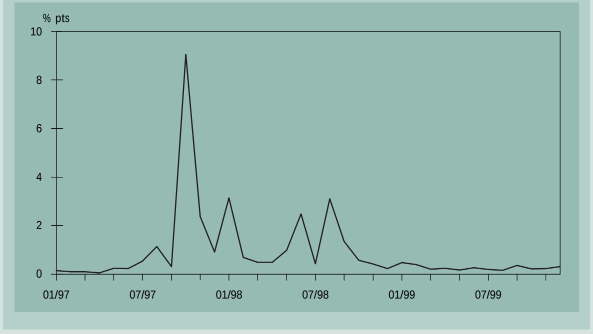


Chart 5
HK$ - US$ Interest Rate Differentials

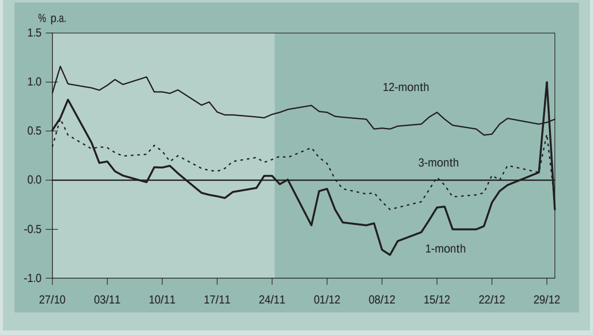


Chart 6
Exchange Fund Paper Yield Curves

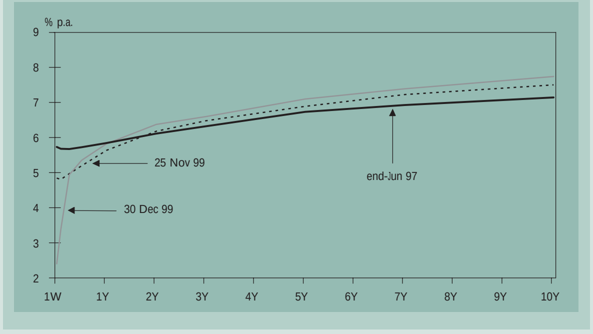
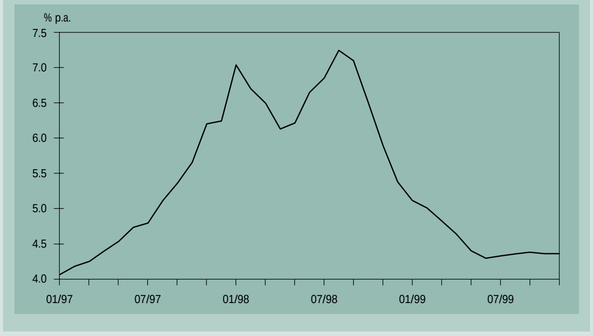


Table 1
Yield Spreads between Exchange Fund Paper and US Treasuries (basis points)

	27-Jun-97	25-Nov-99	30-Dec-99
3-month	56	-34	-30
1-year	21	-7	-13
3-year	3	43	23
5-year	27	78	72
10-year	54	132	122

The savings rate under the Interest Rate Rules and **the best lending rate** offered by major **banks remained unchanged** during the period. The weighted average deposit rate offered by 44 major authorised institutions for 1-month time deposits (which are outside the Interest Rate Rules) increased slightly from 5.69% on 26 November to 5.89% on 17 December. Meanwhile, the effective deposit rate (taking into account the maturity of deposits) remained unchanged at 4.36% in November (Chart 7).

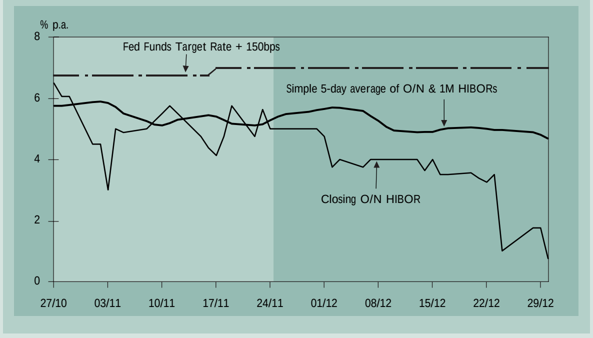
Chart 7
Effective HK$ Deposit Rate



Base Rate

The Base Rate remained unchanged at 7.0% during the period (150 basis points above the US Fed Funds Target Rate) (Chart 8).

Chart 8
Base Rate and O/N HIBOR



Monetary Base

The monetary base, which comprises the outstanding amount of Certificates of Indebtedness, coins in circulation, the Aggregate Balance and the outstanding amount of Exchange Fund Bills and Notes, **increased notably from HK$200.18 bn on 25 November to HK$234.63 bn on 30 December** (Table 2). Movements of the individual components are discussed below.

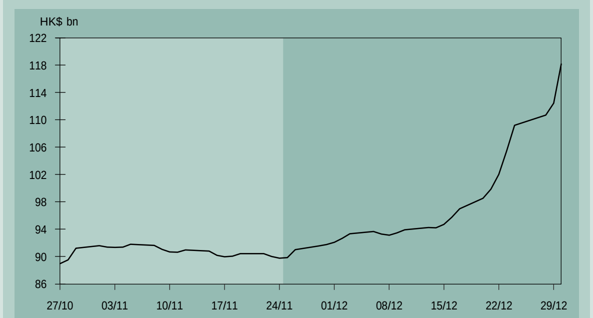
Table 2
Monetary Base

(HK$ bn)	25-Nov	30-Dec
CIs	89.84	118.20
Coins in Circulation	5.95	6.03
Aggregate Balance	2.39	7.96
Outstanding EFBNs	102.00	102.44
Monetary Base	200.18	234.63

Certificates of Indebtedness

During the reporting period, there was **a sizeable increase in the outstanding amount of Certificates of Indebtedness (CIs),** from HK$89.84 bn to HK$118.20 bn. The three Note Issuing Banks (NIBs) submitted a total of US$3.64 bn to the Exchange Fund in exchange for HK$28.36 bn of CIs. The rise in part reflected increased cash demand by the public due to seasonal factors (Christmas and New Year) and Year 2000 concerns. Banks also reportedly increased their cash holdings against a possible surge in cash demand as Year 2000 drew near (Chart 9).

Chart 9
Certificates of Indebtedness



Coins

The total amount of **coins in circulation increased slightly from** HK$5.95 bn to HK$6.03 bn during the period (Chart 10).

Aggregate Balance

On the back of a net inflow of funds and a strengthening of the exchange rate, the HKMA sold a total of HK$5.59 bn in response to bank offers during the reporting period (Table 3). **The Aggregate Balance (before Discount Window activities) increased from HK$2.39 bn on 25 November to HK$7.96 bn on 30 December** (Chart 11).

During the period, **a total of HK$0.66 bn in interest payments on Exchange Fund paper were made, while an additional HK$0.66 bn (market value) of Exchange Fund paper was issued to absorb the interest payments.**

Outstanding Exchange Fund Bills and Notes

During the period, **the market value of outstanding Exchange Fund paper increased marginally from HK$102.00 bn to HK$102.44 bn.** The increase was mainly a result of the additional net issue (referred to in paragraph 12 above). All issues of Exchange Fund Bills and Notes were well received by the market (Table 4). **Banks' holdings of Exchange Fund paper increased notably during the period,** from HK$84.13 bn (or 82.5% of total) on 25 November to HK$88.93 bn (or 86.8% of total) on 30 December. This reflected mainly their precautionary demand for collateral for intra-day and Discount Window borrowing

Chart 10
Coins in Circulation

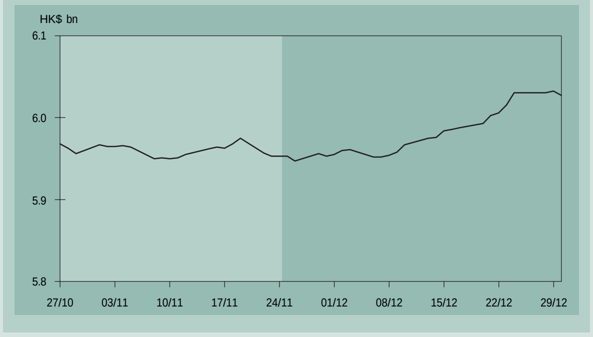


Table 3
HKMA HK$/US$ FX Transactions*
(25 November – 30 December)

Trade Date	Net HK$ purchase (+) / sale (-) (HK$ mn)
26 Nov	-777
29 Nov	-233
30 Nov	-2,874
23 Dec	-1,709
Total	**-5,593**

* *FX transactions may be due for settlement today, on the next business day, or the day after, at which point they would affect the Aggregate Balance.*

Chart 11
Aggregate Balance
(before Discount Window Activities)

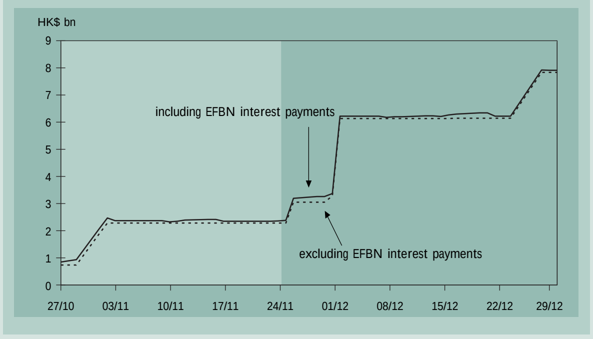


Table 4
Issuance of EF Paper
(25 November – 30 December)

	No. of issues launched	Over-subscription ratio
1-month EFB	4	1.38-4.40
3-month EFB	5	1.11-1.91
6-month EFB	3	1.50-2.58
12-month EFB	1	3.43
5-year EFN	1	1.61
10-year EFN	1	2.82

during the Year 2000 critical periods. Banks might also have preferred to hold Exchange Fund paper to reduce counterpart risk towards the end of the year (Chart 12).

Discount Window Activities

The Discount Window provides banks access to overnight liquidity to facilitate their cash flow management, and hence helps to ensure the smooth functioning of the interbank payment system. Banks' access is unrestricted in respect of borrowings collateralized against Exchange Fund paper. **The enlarged Discount Window** through which licensed banks may obtain liquidity support using a wider spectrum of quality Hong Kong dollar debt papers in the Year 2000 critical periods, **commenced operation on 15 November. There was, however, no borrowing using paper other than Exchange Fund paper** during the reporting period. Reflecting high liquidity in the interbank market, **banks in total borrowed only HK$762 mn** from the HKMA through the Discount Window, representing a daily average of HK$26 mn, considerably lower than the HK$74 mn in the preceding period (Chart 13).

A total of 14 banks borrowed overnight liquidity through the Discount Window (Table 5). Most banks used the Discount Window facility only infrequently.

Backing Portfolio

Alongside the rise in CIs and the Aggregate Balance during the reporting period, the backing assets increased by the same amount. Nevertheless, as the marginal increase was backed on a 100% basis, this had the effect of pulling the backing ratio down **slightly from 111.04% on 25 November to 109.49% on 31 December.** Under the linked exchange rate system, although specific Exchange Fund assets have been designated for the Backing Portfolio, all Exchange Fund assets are available to support the Hong Kong dollar exchange rate.

Chart 12
EF Paper Held by Licensed Banks

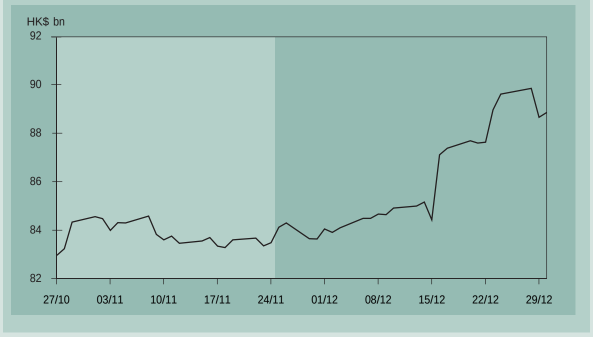


Chart 13
Discount Window Borrowing

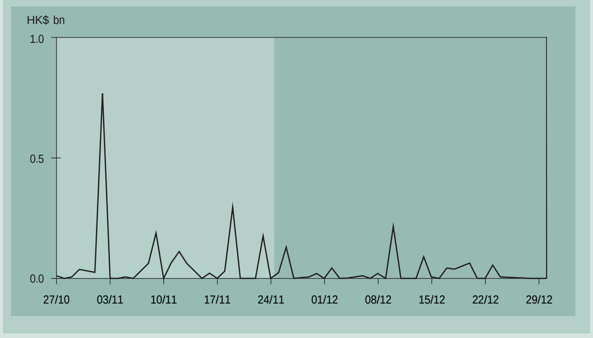


Table 5
Frequency of Individual Bank's Access to the Discount Window (25 November – 30 December)

Frequency of using Discount Window	No. of banks
1	12
2	1
3	0
4	0
>4	1
Total	**14**