

## Management's Discussion and Analysis

### Financial Review

#### Financial Performance

	Half-year ended 30 June 2004	Half-year ended 30 June 2003
Operating profit before provisions (HK\$m)	5,356	6,139
Operating profit after provisions (HK\$m)	6,596	4,470
Profit before taxation (HK\$m)	6,776	3,245
Profit attributable to shareholders (HK\$m)	5,581	3,012
Earnings per share (HK\$)	0.5279	0.2849
Return on average total assets (annualised)	1.48%	0.82%
Return on average shareholders' funds (annualised)	18.19%	10.56%

The Group's profit attributable to shareholders was HK\$5,581 million, up HK\$2,569 million or 85.29%, compared to the first half of 2003. Earnings per share was HK\$0.5279, up HK\$0.2430 or 85.29%. Return on average total assets increased by 0.66 percentage point to 1.48% and return on average shareholders' funds was 18.19%, up 7.63 percentage points against 10.56% for the first half in 2003.

The Group's operating profit before provisions was HK\$5,356 million, down HK\$783 million or 12.75%, compared to the first half of 2003. The decline was mainly due to a decrease in net interest income, which was partially offset by an increase in other operating income.

#### Net interest income and margin

HK\$m, except percentage amounts	Half-year ended 30 June 2004	Half-year ended 30 June 2003
Interest income	7,304	9,358
Interest expense	(1,795)	(2,774)
Net interest income	5,509	6,584
Average interest-earning assets	708,490	701,544
Net interest spread (annualised)	1.49%	1.79%
Net interest margin (annualised)	1.56%	1.89%

Net interest income was HK\$5,509 million, down HK\$1,075 million or 16.33%, compared to the first half of 2003. Net interest margin fell by 33 basis points to 1.56%, a result of 30 and 3-basis point decline in net interest spread and contribution of net free funds respectively. The persistently low HIBOR since last September led to the decline in interest income, which was only partially offset by the decrease in interest expense.

The decrease in interest income was mainly attributable to the decline in average yields from interbank placements, loans and debt securities. The drop in yield from Hong Kong dollar interbank placements was consistent with that of HIBOR. In the first half of 2004, average 1-month HIBOR and 3-month HIBOR fell by 125 and 110 basis points to 0.11% and 0.27% respectively when compared to the first half of 2003. Hence, the yield from HIBOR-based loans fell as well. Keen pricing competition also compressed the yields from residential mortgage and corporate loans. The debt securities portfolio recorded a decrease in yield on repricing under the low interest rate environment. During the period, we also reduced the average duration of the portfolio.

## Management's Discussion and Analysis (continued)

### Financial Review (continued)

#### Financial Performance (continued)

The decrease in interest expense was mainly attributable to falling market interest rates, the decrease in deposits from customers as well as the continued shift of time deposits towards savings deposits during the period. However, in this exceptionally low interest rate environment, our ability to manage liability costs was restricted.

#### Other operating income

HK\$m, except percentage amounts	<b>Half-year ended 30 June 2004</b>	Half-year ended 30 June 2003
Fees and commission income	<b>2,221</b>	1,690
Fees and commission expenses	<b>(510)</b>	(313)
Net fees and commission income	<b>1,711</b>	1,377
Dividend income from investments in securities	<b>13</b>	31
Net gain from other investments in securities	<b>24</b>	156
Net gain from foreign exchange activities	<b>584</b>	478
Net gain from other dealing activities	<b>54</b>	17
Net rental income from investment properties	<b>76</b>	88
Others	<b>52</b>	105
Other operating income	<b>2,514</b>	2,252
Non-interest income to total operating income ratio	<b>31.33%</b>	25.49%

Other operating income was HK\$2,514 million, up HK\$262 million or 11.63%, compared to the first half of 2003. Net fees and commission income was HK\$1,711 million, up HK\$334 million or 24.26%, primarily due to the increase of HK\$460 million or 134% in income from wealth management business, including stockbroking and the distribution of investment funds, retail bonds and life insurance products, as a result of higher stock turnover and stronger demand for alternative investments under the low interest rate environment.

Fees and commission expenses were HK\$510 million, up HK\$197 million or 62.94%, mainly due to higher stock commission expenses and cash rebates for residential mortgage as the volume of business increased. In addition, the growth of our merchant acquiring business also raised the commission expenses related to credit cards.

Net gain from foreign exchange activities increased by HK\$106 million or 22.18% due to higher volume of customer transactions.

## Management's Discussion and Analysis (continued)

### Financial Review (continued)

#### Financial Performance (continued)

##### Operating expenses

HK\$m, except percentage amounts	<b>Half-year ended 30 June 2004</b>	Half-year ended 30 June 2003
Staff costs	<b>1,627</b>	1,634
Premises and equipment expenses (excluding depreciation)	<b>346</b>	309
Depreciation on owned fixed assets	<b>293</b>	322
Other operating expenses	<b>401</b>	432
Operating expenses	<b>2,667</b>	2,697
Cost to income ratio	<b>33.24%</b>	30.52%

Operating expenses were HK\$2,667 million, down HK\$30 million or 1.11%, as a result of disciplined cost control. The cost to income ratio increased by 2.72 percentage points to 33.24% mainly due to the decline in operating income. Staff costs were maintained at the same level as the first half of 2003. Expenses on information technology increased, which were offset by lower depreciation expenses due to the reduction in fixed assets and the decline in other operating expenses, which were higher in the 2003 interim period due to additional professional expenses incurred for the special review.

The total number of employees of the Group, including all the subsidiary companies, was 13,009 at end of June 2004, a decrease of 179 from end-2003.

##### Write-back of/(charge for) bad and doubtful debts

HK\$m	<b>Half-year ended 30 June 2004</b>	Half-year ended 30 June 2003
Specific provisions		
- new provisions	<b>(811)</b>	(2,537)
- releases	<b>1,327</b>	482
- recoveries	<b>733</b>	220
General provisions	<b>1,249</b>	(1,835)
	<b>(9)</b>	166
Net credit/(charge) to profit and loss account	<b>1,240</b>	(1,669)

Asset quality continued to improve. The Group recorded a net write-back of provisions of HK\$1,240 million, which represented a significant improvement as compared to the net charge for bad and doubtful debts of HK\$1,669 million in the first half of 2003. New specific provisions decreased by HK\$1,726 million, or 68.03% to HK\$811 million, reflecting the lower NPL formation as credit quality of the loan portfolio improved. Releases in specific provisions increased by HK\$845 million, or 175.31% to HK\$1,327 million, mainly due to increase in collateral value and collections. Recoveries of loans previously written off also increased by HK\$513 million, or 233.18%, to HK\$733 million.

## Management's Discussion and Analysis (continued)

### Financial Review (continued)

#### Financial Position

HK\$m, except percentage amounts	At 30 June 2004	At 31 December 2003
Cash and short-term funds	<b>126,705</b>	134,106
Placements with banks and other financial institutions maturing between one and twelve months	<b>78,753</b>	78,240
Certificates of deposit held	<b>18,837</b>	18,776
Hong Kong SAR Government certificates of indebtedness	<b>35,320</b>	31,460
Investments in securities*	<b>164,946</b>	172,518
Advances and other accounts	<b>302,435</b>	300,094
Fixed assets	<b>17,144</b>	17,582
Other assets#	<b>7,877</b>	9,811
<b>Total assets</b>	<b>752,017</b>	762,587
Hong Kong SAR currency notes in circulation	<b>35,320</b>	31,460
Deposits and balances of banks and other financial institutions	<b>64,156</b>	41,347
Deposits from customers	<b>564,149</b>	600,642
Certificates of deposit issued	<b>2,423</b>	2,432
Other accounts and provisions	<b>22,336</b>	25,289
<b>Total liabilities</b>	<b>688,384</b>	701,170
Minority interests	<b>1,177</b>	1,156
Shareholders' funds	<b>62,456</b>	60,261
<b>Total liabilities and capital resources</b>	<b>752,017</b>	762,587
<b>Loan to deposit ratio</b>	<b>54.69%</b>	51.38%

\* Investments in securities comprise held-to-maturity securities, investment securities and other investments in securities.

# Trade bills and investments in associates are included in other assets.

The Group's total assets as at 30 June 2004 were HK\$752,017 million, down HK\$10,570 million or 1.39% from end-2003.

Investments in securities, comprising held-to-maturity securities, investment securities and other investments in securities, were HK\$164,946 million, down HK\$7,572 million or 4.39%. Among those, held-to-maturity securities increased by HK\$55,629 million, or 55.04%, to HK\$156,694 million as at 30 June 2004, mainly due to the transfer of a majority of other investments in securities to held-to-maturity securities to align with its associated intention of holding. In accordance with the Group's accounting policy, held-to-maturity securities are stated at amortised cost, while other investments in securities are stated at fair value.

Though the demand for loans remained weak, advances to customers stayed flat at HK\$308,513 million. The loan to deposit ratio was 54.69% as at 30 June 2004, up 3.31 percentage points from end-2003. In terms of economic use, loans for use in Hong Kong by industrial, commercial and financial sectors decreased by HK\$8,300 million or 5.26%. This was offset by a HK\$4,031 million or 3.38% increase in loans for use in Hong Kong by individuals, and a HK\$4,591 million or 21.18% increase in loans for use outside Hong Kong.

## Management's Discussion and Analysis (continued)

### Financial Review (continued)

#### Financial Position (continued)

The decline in loans for use in Hong Kong by industrial, commercial and financial sectors was caused mainly by large write-offs and collections. Proactive risk management, collection and write-off of bad debts are instrumental in improving asset quality.

A strong growth of HK\$4,847 million, or 5.39%, in residential mortgage loans (excluding those for the government-sponsored home purchasing schemes) was the main driver for the increase in lending to individuals. Besides, our Mainland branches also witnessed good performance in their lending business, with a 46% increase in their loan portfolio. Together with the increase in other overseas lending, loans for use outside Hong Kong continued to grow.

During the period, total write-offs and collections amounted to HK\$1,581 million and HK\$4,251 million respectively. If not for the large write-offs and collections, advances to customers would have registered growth.

The net book value of premises and investment properties reduced from HK\$16,460 million as at 31 December 2003 to HK\$16,065 million at 30 June 2004 due to the disposal of HK\$235 million's worth of premises and investment properties and the depreciation charge of HK\$165 million in the first half of 2004.

Deposits from customers were HK\$564,149 million, down HK\$36,493 million or 6.08% from end-2003 due to the tight control on cost of funding and continued shift of funds to other higher-yielding investments by customers in the low interest rate environment. In the first half of 2004, savings deposits and current accounts continued to increase.

#### Capital and liquidity ratios

HK\$m, except percentage amounts	<b>At 30 June 2004</b>	At 31 December 2003
Total capital base after deductions	<b>61,997</b>	60,323
Total risk-weighted assets	<b>375,257</b>	399,158
Total risk-weighted assets adjusted for market risk	<b>375,535</b>	396,682
Capital adequacy ratios		
Before adjusting for market risk	<b>16.52%</b>	15.11%
After adjusting for market risk	<b>16.51%</b>	15.21%
	<b>Half-year ended 30 June 2004</b>	Half-year ended 30 June 2003
Average liquidity ratio	<b>34.64%</b>	37.93%

The Group remained strong in capital and liquidity. The capital adequacy ratio was 16.52% as at 30 June 2004, compared to 15.11% at end-2003. The capital base grew by 2.78% whereas the risk-weighted assets dropped by 5.99%. The enlargement of the capital base was caused by the accumulation of retained profits. The decrease in risk-weighted assets was a result of the reduction of corporate loans and debt securities. The average liquidity ratio was 34.64% for the first half of 2004, down 3.29 percentage points, reflecting the decline in short-term interbank placements.

## Management's Discussion and Analysis (continued)

### Financial Review (continued)

#### Asset Quality

HK\$m, except percentage amounts	<b>At 30 June 2004</b>	At 31 December 2003
Advances to customers	<b>308,513</b>	308,582
General provisions	<b>(5,415)</b>	(5,406)
Specific provisions	<b>(3,410)</b>	(5,507)
Non-performing loans	<b>12,673</b>	17,832
Specific provisions made in respect of non-performing loans	<b>(3,357)</b>	(5,467)
Specific provisions as a percentage of non-performing loans	<b>26.49%</b>	30.66%
Specific provisions and collateral coverage for classified loans	<b>93.70%</b>	90.95%
Loan loss reserve as a percentage of non-performing loans	<b>69.64%</b>	61.20%
Non-performing loan ratio	<b>4.11%</b>	5.78%
Classified loan ratio	<b>4.12%</b>	5.82%
Residential mortgage loans*		
Delinquency** and rescheduled loan ratio	<b>0.78%</b>	1.10%
Card advances - delinquency ratio**#	<b>0.47%</b>	0.75%
	<b>Half-year ended 30 June 2004</b>	Half-year ended 30 June 2003
Card advances - charge-off ratio#	<b>4.67%</b>	10.75%

\* Residential mortgage loans exclude those under the Home Ownership Scheme and other government-sponsored home purchasing schemes.

\*\* Delinquency ratio is measured by a ratio of total amount of overdue loans (more than three months) to total outstanding loans.

# Computed according to the HKMA's definition.

Through effective risk management, collection and write-off, NPL ratio and classified loan ratio improved to 4.11% and 4.12% as at 30 June 2004 from 5.78% and 5.82% at end-2003 respectively. During this period, lower NPL formation, enhanced collection effort and increase in collateral value all helped improve the loan quality.

Collateral coverage for classified loans increased to 67.32% at 30 June 2004 from 60.54% at end-2003. Total specific provisions and collateral coverage ratio for classified loans was 93.70%, compared to 90.95% at end-2003, reflecting the adequacy of provisions. The loan loss reserve ratio also rose to 69.64% from 61.20% six months ago.

The classified loan ratio fell by 1.70 percentage points in the first half of 2004 from end-2003, as compared to the corresponding improvement of 0.18 percentage point in the first half of 2003 from end-2002. A net migration of approximately HK\$600 million's worth of loans to classified loans in the first half of 2004 was recorded, which was significantly lower than that of approximately HK\$4,000 million in the first half of 2003. Externally, this was due to the strong rebound of the economy and property prices in the first half of 2004. Internally, the Group's loan quality has progressively improved since the IPO through various risk management initiatives and the adjustment of our loan mix.

## Management's Discussion and Analysis (continued)

### Financial Review (continued)

#### Asset Quality (continued)

The quality of the Group's residential mortgage portfolio improved. The combined delinquency and rescheduled loan ratio decreased to 0.78% as at 30 June 2004 from 1.10% at end-2003.

The quality of the Group's credit card advances also improved. The delinquency ratio fell from 0.75% at end-2003 to 0.47% at 30 June 2004. The charge-off ratio decreased from 10.75% in the first half of 2003 to 4.67% in the first half of 2004.

#### Business Review

In Hong Kong, the employment situation continued to improve and GDP growth was strong. The extension of the individual visit scheme led to a strong rebound in the domestic retail market. Besides, purchasers' greater confidence in the economy helped revitalise the property market. The economic conditions in the first half of 2004 were generally favorable to the growth and development of our retail banking and treasury businesses.

#### Retail banking

Our retail banking business has been well positioned to benefit from the continuous recovery of the economy. Our wealth management, credit cards, residential mortgage and personal RMB banking businesses demonstrated particularly strong growth in the first half of 2004.

**Wealth management:** The volume of wealth management business increased considerably. Stockbroking transactions and the sales of investment funds rose by 150% and 112% respectively. At the same time, the distribution of life insurance products also registered a substantial increment of 139% in premium.

To meet our customers' increasing demand for wealth management services, we strengthened our cooperation with investment fund houses, in particular BOCI-Prudential Asset Management, by launching a series of investment funds, such as the exclusive distribution of BOCHK China Income Fund.

Against the backdrop of low interest rate, we made greater efforts in promoting short-term endowment and protection plans by broadening our range of life insurance products to cover various protection and saving needs at different stages of a person's life. These included "Smart Saver 5-Year Life Endowment Plan", "All-for-You Fruitful 10 Years, 15 Years Endowment Plan", and "5 Year Pay-10 Year Saving Plan". Moreover, we introduced the "Life in Bliss Perfect Protection Series", which provided general personal insurance plans. Apart from new insurance product offerings, we also improved our distribution channels through the provision of online subscription in our Travel Insurance and Golfer Insurance schemes to our customers.

**Residential mortgage:** Our residential mortgage business performed strongly in the first half. The mortgage loan balance increased by 5% from end-2003, against the market average growth of 0.4%. Moreover, the asset quality of the mortgage portfolio improved markedly. The delinquency and rescheduled loan ratio fell to 0.78%, which was below market average. Owing to the recovery of the residential property market, the negative equity ratio dropped significantly from 13% at end-2003 to 5% at the end of June this year.

**Credit cards:** We continued to provide innovative card products to our customers. In April, we became the first bank in Hong Kong to issue RMB credit cards. During the period, we also launched Warner Mini Card and 2004 BOC Euro Commemorative MasterCard.

Our card business recorded a 46% growth in cardholder spending volume, compared to the first half of 2003. Merchant acquiring volume increased by 48% due to a strengthened merchant network and the effect of the China UnionPay Card acquiring business. The number of cards issued and card advances also grew by 14% and 2% respectively from end-2003. At the same time, we were able to maintain our charge-off ratio and delinquency ratio at a low level.

## Management's Discussion and Analysis (continued)

### Business Review (continued)

#### Retail banking (continued)

The good progress we made in growing our card business was duly recognised by the industry. We won several awards from Visa International and MasterCard International:

- 2003 Silver Prize of "Largest Card Sales Volume Growth in Hong Kong Award"
- 2003 Silver Prize of "Highest Merchant Sales Volume in Hong Kong Award"
- 2003 Gold Prize of "Highest Merchant Sales Volume in Macau Award"
- 2003 Gold Prize of "Largest Card Sales Volume Growth in Macau Award"
- 2003 Best Issuer Fraud Control in Hong Kong & Macau Award
- The Highest Market Share in 2003 Cardholder Spending for Commercial Products in Hong Kong Award
- The Highest Growth Rate in 2003 Merchant Purchase Volume in Hong Kong Award - 1st Runner Up

Personal RMB banking business: Since February 2004, we have been offering a diverse range of personal RMB services, including deposits, exchange, remittance and bank cards, which facilitate our customers to capture the opportunities arising from the economic integration between Hong Kong and the Mainland of China. Our customers can enjoy the Group's excellent RMB service network in Hong Kong made up of branches, ATMs, IT's Online Banking and IT's Telephone Banking.

Channels: Our branch rationalisation programme enters into a new stage with the focus to strengthen the selling and servicing capabilities of the branches. During the first half of 2004, two branches were closed. As at 30 June 2004, the total number of branches was 302, of which 287 were located in Hong Kong.

As a result of our efforts in enhancing e-channels, the number of IT's banking customers and transaction volume increased significantly. During this period, we further strengthened our internet banking services by incorporating new functions that enabled wealth management.

#### Corporate banking and financial institutions

Because of large collections and write-offs, our corporate loan balance at end-June 2004 was lower than that of end-2003. However, we maintained a leading position in arranging syndicated loans in the local market and our overseas lending also registered growth.

Through effective collection, write-off and credit risk management, we improved the credit quality of corporate loan portfolio significantly. At the same time, we also adjusted our loan portfolio. This was evident in the substantial growth of 22% in overseas (including Mainland branches) lending and the reduction of corporate lending to the local property development sector.

We made good progress in developing the electronic distribution channel. In May, we launched CBS Online, which was a one-stop and diverse financial management service for corporate customers. Being a more comprehensive and convenient electronic banking service channel, CBS Online helps our customers lower their operating cost and enhance their productivity.

On account of our experience and track record in operating RTGS Link between Shenzhen and Hong Kong, we were appointed as the agent bank for the HKD and USD RTGS Link between Guangdong Province and Hong Kong. The latter commenced in March. Besides, we were also appointed as the agent bank for the USD Joint Cheque Clearing Service between Shenzhen and Hong Kong.

We continued to focus on strengthening our trade finance service and achieved high rating scores in the service quality of import and export factoring at a competition organised by Factors Chain International, a global network of leading factoring companies. According to Factors Chain International statistics, our performance in terms of import factoring business volume was outstanding in the first half of 2004.



## Management's Discussion and Analysis (continued)

### Business Review (continued)

#### Treasury

Treasury operation in a persistently low interest rate environment was both demanding and challenging. During this period, we continued to optimise our investment portfolio in order to enhance return. In anticipation of the possible rise in interest rates, we also shortened the duration of our debt securities portfolio.

Our non-interest income business performed well, due to the volatility of the currency and bullion markets. Foreign exchange activities, bullion trading and option-linked deposit business grew strongly compared to the first half of 2003. We were able to expand our customer base and grow non-interest income from the increased business volume. We further developed our customer-driven treasury platform by offering more treasury products with augmented features to customers, including structured products for retail and corporate customers, in order to capture cross-selling opportunities.

#### Mainland branches and China-related business

Our Mainland branches continued to perform well in the first half of 2004. Operating profit before provisions increased by 28% to HK\$73 million. Profit before taxation, however, dropped by 26% to HK\$100 million, mainly due to large write-back of provisions in the first half of 2003. Total advances to customers rose by 46% to HK\$8,907 million and deposits from customers increased by 6% to HK\$2,061 million when compared to end-2003. The asset quality of our Mainland branches improved significantly. The classified loan ratio fell by 4.51 percentage points from end-2003 to 5.84% as at 30 June 2004.

During the first half of 2004, we made tremendous effort in enhancing the banking services of our Mainland branches. Our initiatives included the introduction of IT's Online Banking and Telephone Banking services at the beginning of this year, which made it even more convenient for our Mainland customers to keep track of their account activities.

In April, our Shenzhen branch and Shanghai branch were approved to extend their RMB services to domestic companies. Furthermore, six of our Mainland branches applied for the financial derivatives business licence while our branches in Guangzhou, Dalian and Fuzhou applied for the RMB business licence. Nanyang's Shenzhen branch also applied to extend RMB business to domestic companies. These would help enlarge our customer base in the Mainland. Meanwhile, collaboration with BOC continued and during the period we took part in cooperation schemes with several BOC branches.

Recently, we refined our China business model to focus on enhancing our services to Hong Kong customers conducting business in the Mainland. The Group's Mainland branches now act as the extended arms of our retail banking and corporate banking business lines. Under the new model, our Mainland branches have a clearly defined organisational structure, market positioning strategy, customer segmentation and product development strategy. We expect that the implementation of the new model will help enhance the overall contribution of China-related business to the Group and capture cross-selling opportunities.

### Risk Management

#### Overview

Risk management is fundamental to the business of the Group. It is also an integral part of our strategy. The principal types of risk inherent in the Group's business include credit risk, market risk (including interest rate and exchange rate risk), liquidity risk and operational risk. The Group's risk management goal is to maximise its long-term risk-adjusted return on capital, reduce the wide volatility in earnings and enhance shareholder value, while maintaining risk exposure within acceptable limits.

## Management's Discussion and Analysis (continued)

### Risk Management (continued)

#### Risk management structure

BOCHK's risk management policies are designed to identify and analyse credit risk, market risk, liquidity risk and operational risk, to set appropriate risk limits, and to continually monitor these risks and limits by means of administrative procedures and information systems. BOCHK continually modifies and enhances its risk management policies and procedures to reflect changes in markets and products.

The Risk Management Committee ("RMC") under the Board of Directors is responsible for approving risk management policies and procedures and major asset and liability management policies proposed by the Asset and Liability Management Committee ("ALCO").

Each Strategic Business Unit ("SBU") is responsible for the implementation of appropriate policies, procedures and controls in relation to risk management. Our Chief Risk Officer ("CRO") oversees and monitors the operation of the Risk Management Department ("RMD") and reports directly to the RMC. Our CRO is also responsible for assisting the Chief Executive on bank-wide credit risk, market risk and operational risk management and submitting to the RMC the independent risk management report on a monthly basis.

Our Chief Financial Officer ("CFO") has oversight responsibilities for the soundness of the Group's capitalisation and earnings. In addition, our CFO, with the assistance of the Treasurer, monitors the bank-wide interest rate risk and liquidity risk and reports to the ALCO and the RMC on a regular basis.

The Audit Department of BOCHK reports to the Board and the Audit Committee that risk management policies, procedures and internal controls are in place and are being followed.

BOCHK's principal banking subsidiaries, Nanyang and Chiyu, also face the same types of inherent business risks and they adopt consistent risk management strategies and policies as BOCHK. These subsidiaries execute their risk management strategy independently and report to BOCHK's management on a regular basis.

#### Credit risk management

Credit risk is the risk that a customer or counterparty will be unable or unwilling to meet a commitment that it has entered into with BOCHK. Credit risk arises principally from BOCHK's lending, trade finance and treasury activities.

BOCHK's primary goal in credit risk management is to maximise its risk-adjusted returns while maintaining its credit risk exposure within acceptable parameters. In particular, BOCHK has developed and is implementing comprehensive policies and procedures to identify, measure, monitor and control credit risk across the organisation.

The Board of Directors is responsible for determining its credit risk management strategic objectives and principles. The Board, with the aim of maximising BOCHK's risk-adjusted returns as well as shareholders' wealth, holds ultimate responsibility for BOCHK's overall credit risk management process.

The RMC is a board-level committee that has the responsibility of determining and revising BOCHK's credit risk management policies and procedures. BOCHK believes that independence and proper checks-and-balances are of crucial importance in effective risk management. To this purpose, in BOCHK's managerial/organisational structure, the RMD and the Audit Department are placed onto the hierarchical position in which they report directly to the RMC and the Audit Committee respectively. All these committees and departments form an independent line of control.

The Chief Executive is responsible for, among other things, implementing the credit risk management strategy and policies approved by the Board. The Chief Executive is also charged with balancing BOCHK's goal of generating a high yield on its assets with the need to maintain risk exposure within the shareholder's tolerance level.

## Management's Discussion and Analysis (continued)

### Risk Management (continued)

#### Credit risk management (continued)

The RMD, being structurally independent of credit initiation units, assists the Chief Executive in managing credit risk based on the credit risk management strategy and policies. It also provides independent due diligence relating to identifying, measuring, monitoring and controlling credit risk. To avoid any potential conflicts of interest, the credit review functions are independent of the business units. Multi-level credit approval authorities are set, depending mostly on the credit officers' professional experience, skill and responsibilities. All credit approval and review authorities originate from BOCHK's Board of Directors.

The Special Assets Management Department is responsible for the collection of NPLs. Other departments, though not specified above, are also charged with relevant matters in relation to credit risk management.

BOCHK employs different approval procedures for high-risk and low-risk loans.

Low-risk credit transactions that fulfill certain requirements relating to credit types, loan purposes, loan amount, guarantees, collateral coverage and security adequacy can be processed using low-risk loan approval procedures. Under these procedures, authorised credit officers in credit initiation units may approve this type of credit applications without prior review by the RMD. The corresponding loan review officer in the RMD should conduct independent post-approval reviews of such pre-approved low-risk credit transactions and assess if initial credit decisions have been made in accordance with the established procedures.

For high-risk loans, credit officers in credit initiation units can only accept and review loan applications and make the initial lending decisions. These credit applications are then independently evaluated by review officers in the RMD in respect of compliance with policies and procedures, adequacy of credit risk assessment, and information sufficiency. The RMD is authorised to exercise the right of veto or concurrence based on the review conclusions.

For loans reaching the approval authority of Deputy Chief Executives or above, independent risk assessment by the Credit Risk Assessment Committee ("CRAC") is required. The CRAC is a specialised committee consisting of experts from the lending business. The CRAC, reporting to Chief Executive, is responsible for making independent risk assessment of significant credit applications. Its assessment result will be an important basis for the CRO to conduct his credit review decision as well as the Chief Executive and Deputy Chief Executives to make their credit approval decisions. The CRAC itself has no credit approval authority.

Loans which exceed the approval authority of the Chief Executive have to be approved by the RMC.

BOCHK has a dedicated division, the Credit Risk Monitoring Division in the RMD, to conduct thorough and comprehensive post-disbursement monitoring on each obligor and group of obligors in order to identify and control individual and overall credit risk in the loan portfolio.

An early alert programme for potential problem customers has been established to detect early signs of deterioration in credit status of obligors and to trigger closer monitoring process to prevent further deterioration.

To ensure that adequate efforts are dedicated to resolve NPLs, BOCHK has set up internal targets to evaluate the performance in the resolution of criticised loans. The RMD provides regular monitoring reports on the progress to senior management for high-level oversight.

## Management's Discussion and Analysis (continued)

### Risk Management (continued)

#### Market risk management

Market risk is the risk that the movements in interest rates or market prices will result in losses in on- and off-balance sheet positions. BOCHK's market risk arises from customer-related business and from position taking. Market risk trading positions are subject to daily mark-to-market valuation.

Market risk is managed within the risk limits approved by the RMC. The overall risk limits are divided into sub-limits by reference to different risk factors, which are interest rate, foreign exchange rate, commodity and equity prices. Considering the different nature of the products involved, limits are set by using a combination of risk measurement techniques, including position limits and sensitivity limits.

Having set up the monitoring limits and supervisory procedures, the Market Risk Division in the RMD is responsible for the daily market risk management to ensure that the overall and individual market risks are managed within BOCHK's risk tolerance.

VaR is a statistical technique which estimates the potential losses that could occur on risk positions taken due to movements in interest rates, foreign exchange rates, commodity prices and equity prices over a specified time horizon and to a given level of confidence. The model used by BOCHK to calculate portfolio and individual VaR on a variance/covariance basis, uses historical movements in market rates and prices, a 99% confidence level and a 1-day holding period and generally takes account of correlations between different markets and rates.

At 30 June 2004, the VaR for all trading market risk exposure of BOCHK was HK\$2.2 million (31 December 2003: HK\$0.8 million), the VaR for all trading interest rate risk exposure was HK\$1.8 million (31 December 2003: HK\$0.7 million) and the VaR for all trading foreign exchange risk exposure was HK\$1.4 million (31 December 2003: HK\$0.6 million). The average VaR for the first half of 2004 was HK\$3.3 million (first half of 2003: HK\$4.1 million), with a maximum of HK\$5.6 million and a minimum of HK\$0.9 million for the period.

For the first half of 2004, the average daily revenue of BOCHK earned from market risk-related trading activities was HK\$2.5 million (first half of 2003: HK\$2.3 million). The standard deviation of these daily trading revenues was HK\$2.5 million (first half of 2003: HK\$3.2 million). The most frequent result was a daily trading revenue of between HK\$2 million to HK\$4 million, with 48 occurrences. The highest daily revenue was HK\$9.0 million (first half of 2003: HK\$11.4 million).

#### Foreign exchange risk management

BOCHK provides foreign exchange deposit, margin trading and forward transaction services to its customers. BOCHK's trading activities in the foreign currency markets expose it to exchange rate risk. BOCHK manages exchange rate risk through its interbank market activities. In particular, BOCHK mitigates exchange rate risk by establishing position limits and limits on the loss of the whole foreign exchange trading floor. All these limits are approved by the RMC. The RMD is responsible for monitoring foreign exchange exposure and related stop-loss limits on a day-to-day basis as well as controlling BOCHK's credit risk exposure arising from foreign exchange transactions.

#### Interest rate risk management

BOCHK's interest rate risk exposures comprise trading and structural exposures. The major types of interest rate risk of structural position are: (1) Repricing risk: mismatches in the maturity or repricing periods of assets and liabilities; (2) Basis risk: different pricing basis for different transactions so that yield on assets and cost of liabilities may change by different amounts within the same repricing period.

BOCHK's ALCO maintains oversight of interest rate risk; the RMC sanctions the interest rate risk management policies formulated by the ALCO. The Treasurer, under the supervision of the CFO, carries out approved policies and develops risk management system to identify, measure, monitor, and control interest rate risk.

## Management's Discussion and Analysis (continued)

### Risk Management (continued)

#### Interest rate risk management (continued)

Gap analysis is the primary tool used to measure BOCHK's exposure to interest rate risk. It provides BOCHK with a static view of the maturity and repricing characteristics of its balance sheet positions. The magnitude of the gaps indicates the extent to which BOCHK is exposed to the risk of potential changes in the margins on new or repriced assets and liabilities. BOCHK uses interest rate derivatives to hedge its interest rate exposures; in most cases, plain vanilla interest rate swap is used.

Sensitivity of earnings to interest rate changes (Earnings at Risk) is assessed through hypothetical interest rate shock of 100 basis points across the yield curve on both sides. Variations in net interest income are controlled within 5% of the projected amount for the year. The result is reported to the CFO on a regular basis.

The impact of basis risk is gauged by the projected change in net interest income under scenarios of imperfect correlation in the adjustment of the rates earned and paid on different instruments. Such scenarios include probable interest rate changes in the short-term period and under stress conditions, and are conducted regularly. The ALCO monitors the results of stress test scenarios against limits and decides whether remedial action should be made.

#### Liquidity risk management

Liquidity risk arises in the funding of lending, trading and investment activities and in the management of trading positions. Liquidity risk includes both the risk of unexpected increase in the cost of funding to refinance BOCHK's asset portfolio at appropriate maturities and the risk of being unable to liquidate a position in a timely manner and/or at a reasonable price.

The goal of liquidity management is to enable BOCHK, even under adverse market conditions, to meet all its maturing repayment obligations on time and to fund all of its asset growth and strategic opportunities.

BOCHK maintains flexibility in meeting its funding requirements by maintaining diverse sources of liquidity. BOCHK funds its operations principally by accepting deposits from retail and corporate depositors. In addition, BOCHK may issue certificates of deposit to secure a long-term financing source or may raise funds through the sale of investments.

BOCHK uses the majority of funds raised to extend loans, to purchase debt securities or to conduct interbank placements. Generally deposits have a shorter average maturity than interbank placements that in turn are of shorter average maturity compared to that of loans or investments.

BOCHK maintains a portfolio of liquid, high quality securities that may generally be sold at any time at market prices to meet BOCHK's emergent liquidity needs. BOCHK may also manage its liquidity by borrowing in the interbank markets on a short-term basis, although typically BOCHK is a net lender of funds. The interbank markets generally provide an adequate amount of liquidity, at borrowing rates that are subject to market conditions.

The primary goal of BOCHK's asset and liability management strategy is to achieve an optimal return while ensuring adequate levels of liquidity and capital within an effective risk control framework and at reasonable cost of funding. BOCHK's ALCO is responsible for establishing these policy directives and works closely with the Treasurer to ensure that BOCHK maintains adequate levels of liquidity and secures the lowest possible cost of funding, while closely planning and monitoring BOCHK's on- and off-balance sheet assets and liabilities with regard to the risk incurred. The Treasurer adjusts, as necessary, BOCHK's liquidity and structural foreign exchange positions in line with the policies of ALCO, and also provides reporting and analytical support to the ALCO with respect to current and planned positions taken for investment, funding and structural foreign exchange management purposes.

## Management's Discussion and Analysis (continued)

### Risk Management (continued)

#### Capital management

The major objective of capital management is to maximise the returns to shareholders while maintaining a strong capital position. We would consider the adjustment of capital mix when appropriate to achieve the lowest overall cost of capital. The ALCO, with the assistance of the Treasurer, monitors the adequacy of BOCHK's capital using the capital adequacy ratio as one of the major measurements. The Group complied with all the statutory capital standards for all the periods presented in the report.

#### Operational risk management

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. It is BOCHK's objective to manage this risk in line with the best practice of the industry.

BOCHK manages operational risk by identifying, assessing, monitoring, controlling and mitigating the risks. Operational risks inherent in processes, activities and products are identified and assessed. BOCHK monitors operational risk losses and reports to the Board and senior management. In order to achieve effective internal control, BOCHK maintains adequate documentation of its business processes whereby control procedures are set. BOCHK also emphasises the segregation of duties and independent authorisation among all business activities.

To support business operations in the event of disasters, the Business Continuity Plan is in place. Adequate backup facilities are maintained and periodic drills are conducted. The Company also arranges insurance cover to mitigate potential losses in respect of operational risk.

#### Stress testing

BOCHK supplements the analysis of various types of risks with stress testing. Stress testing is a risk management tool for estimating BOCHK's risk exposures under stressed conditions arising from extreme but plausible market or macroeconomic movements. These tests are conducted on a regular basis and the result is monitored by the CFO and ALCO.