

## Business Overview

2004 was, without doubt, a fruitful year for the HKMC. The Corporation achieved record financial results and at the same time made sound progress in meeting its objectives of maintaining banking stability, promoting home ownership and developing the debt market in Hong Kong.



## growth and diversification

For the core businesses of mortgage purchase, mortgage insurance and debt issuance, we have successfully managed to enhance the transaction volume and broaden the business catchment area to service a wider group of clientele in response to the changing market environment.

## Performance Highlights

The HKMC's four business areas of mortgage purchase, mortgage insurance, fund raising and mortgage securitisation all recorded good performances in 2004. The major achievements of the Corporation include:

- Purchase of HK\$11.4 billion of mortgage loans;
- Providing insurance coverage for newly originated mortgage loans totalling HK\$14.2 billion, an increase of 89.3% over year 2003;
- Issuance of HK\$11.4 billion in debt securities and HK\$2.4 billion in mortgage-backed securities (MBS), maintaining its position as the most active corporate issuer in the Hong Kong dollar debt market;
- Maintaining excellent asset quality, with a 90-day delinquency ratio of 0.11% for the mortgage insurance portfolio and 0.36% for the retained mortgage portfolio (compared to the banking industry average of 0.38%);
- Maintaining long-term credit ratings of A1/A+ for foreign currency and Aa3/AA- for local currency debt securities from Moody's and Standard & Poor's (S&P), the same levels as those of the Hong Kong SAR Government.

These achievements propelled the Corporation to record financial results:

- Profit after tax of HK\$664 million, which is HK\$284.9 million or 75.2% more than that of 2003;
- Low funding costs for the new debt issuance help to maintain the net interest spread at 1.6%, same as 2003;
- Return on shareholder's equity substantially improved from 11.5% to 17.1%;
- Return on assets improved from 1.0% to 1.3%;
- Capital-to-assets ratio remained strong at 9.4%, well above the minimum requirement of 5%;

- Cost-to-income ratio reduced further from 17.4% to 12.2%, significantly less than the banking industry average of 41.6%.

## Operational Highlights

During the year the Corporation continued to make good headway in developing its core businesses.

### Mortgage Purchase

- Completed the purchase of the remaining stock under the Home Starter Loan Scheme (HSLs) and the Sandwich Class Housing Loan Scheme (SCHLS) from the Hong Kong SAR Government;
- The re-launch of the FARM programme in anticipation of a rise in interest rates to revive homebuyers' interest in fixed rate mortgages.

### Mortgage Insurance

- Launched the 95% LTV product under the MIP to assist more homebuyers in realising their aspiration to own their home;
- Expanded the MIP to cover mortgage loans with a combined age of property and loan tenor of up to a maximum of 60 years to facilitate mortgage financing for old-aged properties;
- Further improved processing efficiency and turnaround time of applications;
- Enhanced public acceptance of MIP, as evidenced by the increase in market penetration from 8.5% in 2002 to 16% in 2004.

### Fund-raising

- Remained the most active private sector debt issuer in the Hong Kong dollar debt market over the past four years;
- Launched 39 debt issues for a total amount of HK\$11.4 billion in 2004 to support mortgage purchase activities and redemption of maturing debts.

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**Mortgage-Backed Securitisation**

- Originated a new series of HK\$2 billion MBS with a retail tranche under the Bauhinia Mortgage-Backed Securitisation Programme – a first in Asia for retail MBS.

**Operations**

- Conducted a comprehensive process re-engineering review in the treasury operations and mortgage insurance operations in 2004. Systems enhancements and operational improvements are being implemented in phases in 2004 and 2005.

**Mortgage Market Overview**

**Rise in Residential Property Prices**

Year 2004 saw a very encouraging growth in the local residential property market. Building on the momentum in the last quarter of 2003, private residential property prices continued to gain further ground in early 2004, surging about 20% in the first four months of the year (based on the Private Domestic Price Index (PDPI) compiled by the Rating and Valuation Department). After that the rally eased noticeably until a boost was received with the seasonally adjusted unemployment rate falling from 6.9% in the

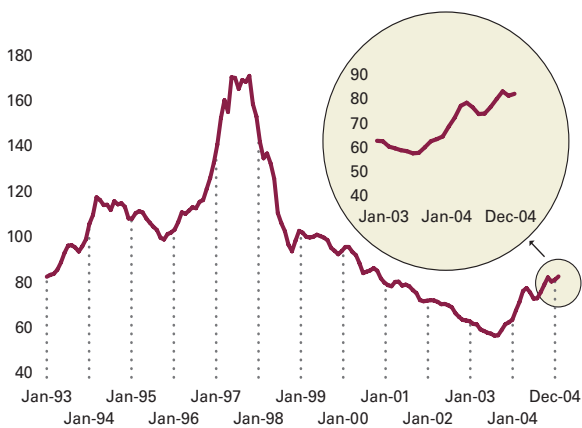
second quarter to 6.8% in the third quarter and to a further 3-year low of 6.5% in the final quarter of 2004. Market sentiment was boosted even further by the surprisingly good results of the land auction in October, when two major residential sites were sold for a total of HK\$14.1 billion. As a result, after a brief period of consolidation in the second quarter, property prices resumed their upward trend in the second half of the year. The PDPI rose to 83.2 in December 2004 (Figure 1), translating to a 27% gain on a year-on-year basis.

**Enhanced Transaction Volume**

Apart from the rally in prices, property transaction volume was also on the rise in 2004. The number of property transactions jumped by 42% to about 123,500 cases. Out of this total, 83% or 102,500 cases related to residential properties (Figure 2). Coupled with the rise in property prices, the total value of residential property transactions surged by 86% to HK\$352 billion for the year. Both the number and value of transactions are at their highest since 1998. Enhanced sales volume enabled the developers to trim down their unsold stock to 8,900 units by the end of the year, representing a significant drop of 60% from the peak of 22,600 units in March 2003. In view of the recovering market sentiment and fewer unsold stocks on hand, developers have in the

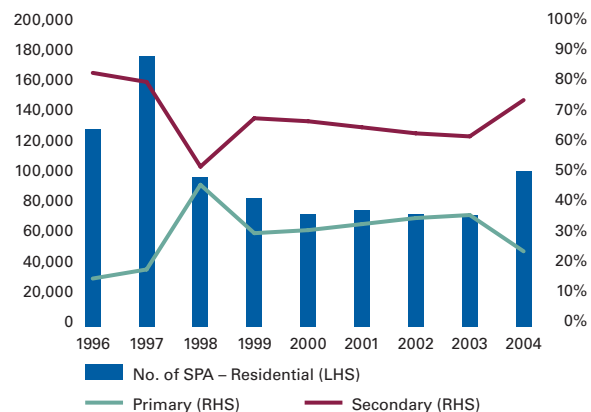
**FIGURE 1**  
**Private Domestic Monthly Price Index (1999 = 100)**

Source: Rating and Valuation Department



**FIGURE 2**  
**Sale and Purchase Agreement of Residential Properties**

Source: The Land Registry, compiled by HKMC



last quarter of the year been actively replenishing their land bank and become less aggressive in launching the sale of their units in the primary market. As a result, sales in the primary market accounted for only 25% of the total residential property transactions in 2004 as against 37% in 2003.

### Strong Growth in New Loan Originations

The vibrant property market propelled the mortgage market to a 6-year high in 2004 in terms of loan originations. According to the Hong Kong Monetary Authority's (HKMA's) monthly survey of residential mortgage lending, aggregate new mortgage loans in 2004 increased by 35.3% to more than 88,000 loans and by 68% from HK\$79.5 billion in 2003 to HK\$133.5 billion in 2004. The average loan amount also increased from HK\$1.22 million in 2003 to HK\$1.52 million in 2004. It is estimated that the primary and secondary property markets account for about 26% and 50% of new loan origination respectively. The balance of 24% is due to refinancing activities.

### Overall Size of Market Remains Largely Unchanged

Despite the strong growth in new loan

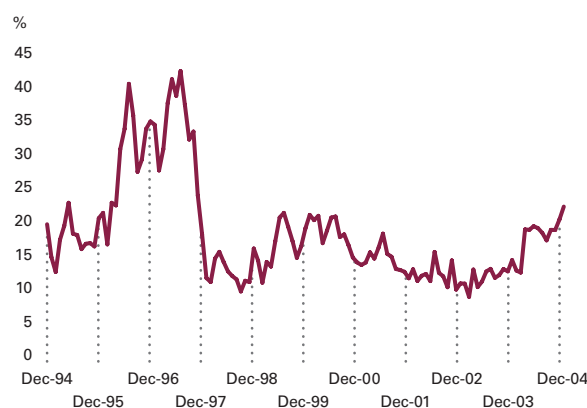
originations, the aggregate outstanding principal balance of the mortgage portfolios of all Authorized Institutions only rose by 1.1% from HK\$522.3 billion in 2003 to HK\$527.9 billion as at end-December 2004. The very slow growth in outstanding loan balance can be attributed to a high rate of prepayment, which is estimated to have increased from an average of 11.9% in 2003 to 18.2% in 2004. This is likely to be the result of an increase in switching or upgrading of homes by existing homeowners. **Figure 3** shows the rising trend of prepayment for the year.

### Keen Competition in the Mortgage Market

Due to the high prepayment levels, many banks relied on competitive pricing to attract new loan originations to replenish their loan book and maintain market share. This led to a continual downward drift in mortgage rates. Of the HK\$155.7 billion new loans approved in 2004, approximately 72% or HK\$111.9 billion was originated at more than 2.5% below the Prime rate, up significantly from 47% in 2003. Consequently, the weighted average spread of new loans is estimated to have dropped from 2.46% below the Prime rate in December 2003 to 2.72% in December 2004 (**Figure 4**).

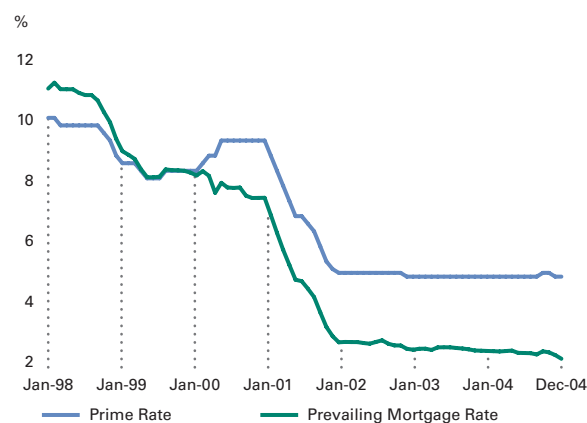
**FIGURE 3**  
**Prepayment Rate of the Hong Kong Mortgage Market**

Source: HKMC estimates



**FIGURE 4**  
**Prime and Prevailing Gross Mortgage Rate**

Source: HKMA and HKMC



Note: Prime rate refers to the period end; prevailing mortgage rate refers to the weighted average rate of the newly approved mortgages in the month.

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Banks are eager to develop their mortgage loan business for two reasons – the excellent performance of mortgage loans and the ample liquidity in the banking system. The continued recovery of the economy and fall in unemployment rate was also accompanied by a significant reduction in the number of bankruptcy cases. According to the Official Receiver's Office, in 2004 applications for bankruptcy fell by 43.5% year-on-year to about 12,500 cases, while the number of bankruptcy orders decreased by 45.5% to 13,600 cases. These favourable trends all contributed to the good performance of mortgage loans. The delinquency ratio of mortgage loans overdue for more than 90 days for the banking industry decreased from 0.86% in December 2003 to just 0.38% in December 2004. If rescheduled loans are included, the combined ratio dropped from 1.38% to 0.85% over the same period (Figure 5). Accordingly, from a loan performance point of view, banks still find the mortgage loan business very attractive despite the continued lowering of prevailing mortgage rates.

With ample liquidity in the banking system, total deposits grew further from the already high level of HK\$3.56 trillion in December 2003 (almost two times the nominal Gross Domestic Product (GDP)

for the year) to a new record of HK\$3.87 trillion in December 2004, representing a rise of 8.7%. The growth in total deposits outpaced the 5.9% growth in the total amount of bank loans. As a result, the loan-to-deposit ratio for the banking industry as a whole drifted below 56% as at December 2004 (Figure 6).

### The Importance of the Mortgage Market to the Hong Kong Economy

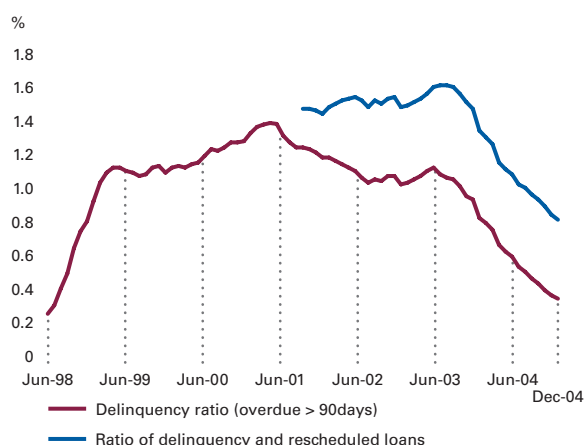
The ratio of residential mortgage loans to GDP is often used as an indicator of the maturity of the mortgage market in an economy. In Hong Kong, the ratio was approximately 50% in 2003 (Figure 7), comparable to the levels in a number of developed countries. It is certainly undeniable that the mortgage market is an important ingredient of the Hong Kong economy, and that mortgage loans are important assets for many banks. In this light, efficient primary and secondary mortgage markets are essential to homebuyers as they search for mortgage financing to assist in the purchase of their homes.

### Mortgage Purchase

In line with prior years, the Corporation made substantial mortgage purchases in 2004. Looking forward, it is essential that the Corporation is

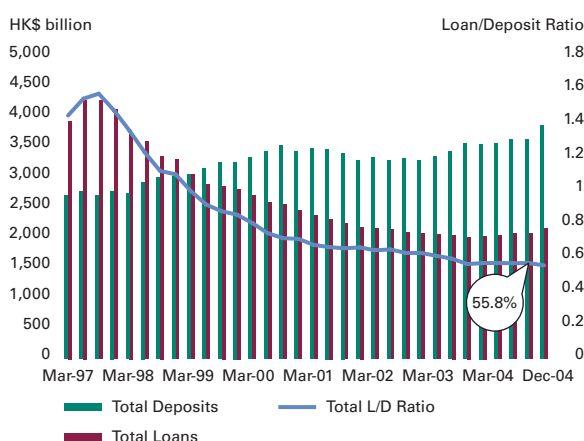
**FIGURE 5**  
**Performance of Mortgage Loans**

Source: HKMA



**FIGURE 6**  
**Total Loans and Deposits (Mar-97 to Dec-04)**

Source: HKMA and CEIC



able to maintain a steady stream of mortgage purchases, as interest income from the retained portfolio accounts for the bulk of the Corporation's revenue. The continuous acquisition of mortgage loans generates funding needs that are a prerequisite for the HKMC to issue debt securities to achieve its objective of promoting Hong Kong's debt market.

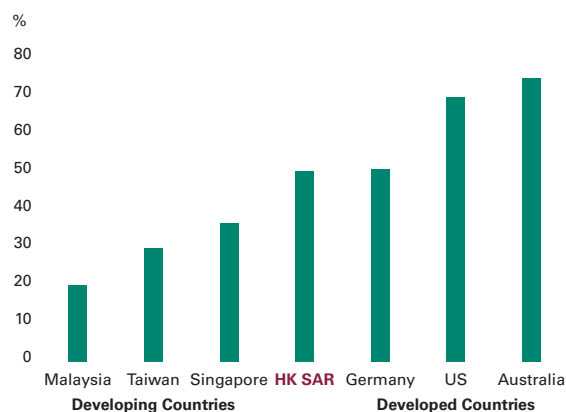
As explained in the Mortgage Market Overview section, despite the strong growth in new mortgage loan originations, the loan portfolios of most banks are adversely affected by the high prepayment rate. The banking system is still flush with liquidity, as demonstrated by the low loan-to-deposit ratio. Compared to other loans, residential mortgage loans continue to be treasured assets in the banks' loan book as a result of their good performance in terms of low delinquency. Under this scenario, at least in the short-term, the Corporation is likely to face a certain degree of difficulty in procuring the purchase of mortgage loans from banks. The Corporation has long realised this shift in the mortgage market environment and has, in reaction to this, adopted a two-pronged strategy of purchasing mortgage loans from other potential sellers and engaged in the development of new mortgage products.

The HKMC has taken active steps since 2000 to expand its range of Approved Sellers and has successfully acquired loans under the various subsidised loan schemes of the Hong Kong SAR Government and the Hong Kong SAR Government housing agencies over the years. The purchases from the Hong Kong SAR Government and the housing agencies have helped to address their fiscal deficit and cash flow issues, thereby creating a win-win situation for them and the HKMC. As a result the Corporation has now a wide range of institutions that are able to sell mortgages to us as and when the market circumstances are appropriate. This wider range of Approved Sellers provides diversification in the sources of mortgage supply and solves the problem of sole reliance on mortgage loan supply from the banks. This high degree of flexibility will enable the Corporation to truly become a secondary market participant for all mortgage loans originated in the primary market.

In addition, in response to the potential interest rate hike environment, the Corporation pioneered the re-launch of the fixed-rate mortgage product in Hong Kong in early 2004. The product was first introduced to Hong Kong by the HKMC in 1998 for the purpose of assisting borrowers to hedge their monthly mortgage payments against a rising

**FIGURE 7**  
**Residential Mortgage / GDP**

Source: Various Statistical Bureaux



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interest rate environment. The move triggered a flurry of fixed-rate mortgage product launches in the market from the banks. Their fixed-rate products are, however, mostly restricted to a 1-year duration with the mortgage rate thereafter reverting to a floating-rate based on the Prime rate. To date the Corporation remains the only institution offering 1, 2- and 3-year fixed-rate mortgage products in the market on an on-going basis. The Corporation will continue to look out for new mortgage product ideas and assume a pioneering role for the benefit of mortgage market participants.

### Mortgage Insurance Programme

The MIP serves as a useful tool to assist potential homebuyers in overcoming the need to make a substantial down payment for the purchase of their homes. In addition, more importantly, it allows the banks to engage in higher LTV lending without incurring additional credit risks and jeopardising the stability of the banking system. In 2004, the HKMC received a total of 17,344 applications under the MIP, involving a total mortgage loan amount of HK\$33 billion. This has taken the total number of applications received since the inception of the MIP in 1999 to 49,220 at end-2004 for a total

mortgage amount of HK\$91 billion. The volume of loans drawn down in 2004 increased by some 88% compared to 2003. This significant rise can primarily be attributed to the strenuous efforts undertaken by the Corporation to expand the product range and eligibility criteria of the programme and the continuous improvement of servicing quality (in particular the turnaround time for processing applications).

Over the years the MIP has gained increasing public acceptance and firmly established itself as an integral part of the mortgage financing scene in Hong Kong. Its penetration rate rose to 16% of all new mortgage loans approved in 2004 as a whole (Figure 8).

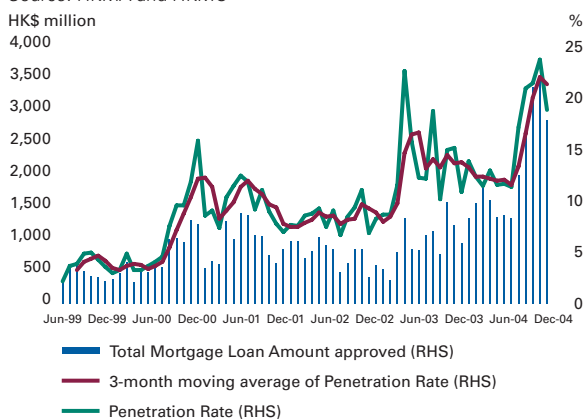
In the past year, the Corporation took the following major steps to further enhance the public's appreciation and acceptance of the MIP:

- Expansion in Eligibility Criteria

The increasing popularity of the MIP is achieved primarily through continuous product innovation and also the constant efforts to fine-tune the programme's eligibility criteria in response to market demand. The Corporation has always adopted a gradual approach in the development of MIP in a prudent manner. This approach has proven to be effective and

**FIGURE 8**  
Mortgage Loan Amount approved and Penetration Rate\* of MIP

Source: HKMA and HKMC



\* Penetration Rate = Mortgage Loan Amount approved under MIP / Total Mortgage Loan Amount approved in the market (according to HKMA's Monthly Mortgage Survey)

**FIGURE 9**  
MIP Expansion in Eligibility Criteria in 2004

January	Launch of the MIP FARM Programme
February	Maximum loan size increase from HK\$8 to HK\$12 million (for LTV up to 90%)
March	Maximum combined age of property and loan tenor of up to 50 years
April	Launch of revised Delegated Underwriting Arrangement Extension of maximum loan tenor from 25 to 30 years (for 90% LTV)
July	Launch of 95% LTV (for loan size up to HK\$5 million)
November	Maximum loan size for 95% LTV increased to HK\$8 million
December	Cash-out refinancing mortgages with LTV up to 85% Maximum combined age of property and loan tenor of up to 60 years

the range of products under the programme has now been expanded to accommodate the needs of a wide range of borrowers, without sacrificing risk management or creating noticeable adverse effects on the performance of the loans. The table on page 22 shows the pace of MIP product development in 2004 (Figure 9).

- Expansion in Scope of Coverage

In line with the Hong Kong SAR Government's policy and emphasis on urban renewal and redevelopment, the MIP was expanded in December 2004 to cover those properties rehabilitated under the Urban Renewal Authority Building Rehabilitation Scheme. The Scheme is designed to assist owners of old-aged properties to carry out preventive building maintenance work on a voluntary basis. The expansion in the scope of MIP coverage is expected to facilitate potential buyers of such old-aged properties to obtain higher LTV financing. In this way the current owners will be indirectly encouraged to participate more actively in the Authority's scheme.

- Improvement in Processing Efficiency

The Corporation has set up a dedicated MIP servicing team to provide prompt feedback to enquiries from the banks and the public.

Training courses for the front-line and back-office staff of banks have helped to enhance their knowledge of MIP and servicing of customers. We are also reinforcing the underwriting team with a view to achieving an even speedier turnaround time than the current target of two business days. In addition, we aim to further streamline the application/approval process so that the time required for performing underwriting work on a loan will be reduced.

A key objective of the HKMC is to promote home ownership. Despite the challenging economic environment over the past few years, the home ownership rate in Hong Kong has increased from 52% in 1999 to 56% in 2003, putting Hong Kong ahead of a number of developed countries (Figure 10). Suffice it to say, the continual enhancement of MIP's market penetration would certainly have a positive impact on the home ownership rate. For 2005 and the future, the Corporation will be working assiduously towards furthering this objective.

## Funding

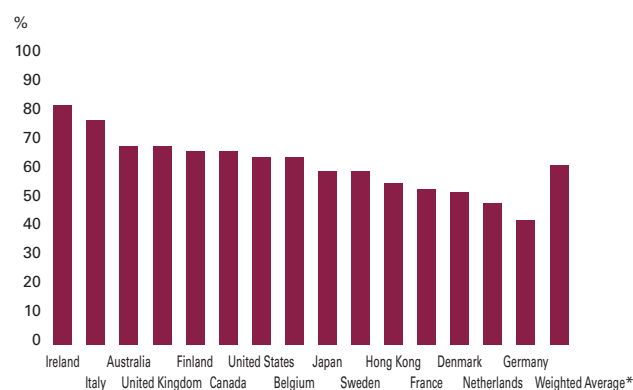
Over the past four years, the Corporation has established itself as the most active private sector debt issuer in the Hong Kong dollar debt



MIP Training Workshop

**FIGURE 10**  
**Home ownership as % of all households**

Source: Economist, 30 March 2002 and Euromonitor



\* Exclude Hong Kong



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market. In 2004, we launched 39 debt issues for a total amount of HK\$11.4 billion to support our mortgage purchase and redemption of matured debts (Figure 11). Riding on the abundant liquidity in the banking system and taking a proactive funding strategy, we achieved in 2004 the lowest ever funding cost since our first debt issue in 1998.

### Debt Issuance Programme

The Debt Issuance Programme (DIP) is the HKMC's major debt-issuing platform for raising funds; over 80% of our debt issues were offered under the DIP. The DIP was established in July 1998, targeting professional investors in the Hong Kong dollar debt market. It was set up with an initial programme size of HK\$20 billion, which was increased to HK\$40 billion in January 2003 to meet our funding needs. To further strengthen our ability in asset-liability management, we built in a sub-programme of transferable loan certificates to the DIP in May 2003. The DIP structure is similar to that of a Euro Medium Term Note Programme, and we can issue plain vanilla debts and structured debts in a flexible and efficient manner. During 2004, the Corporation drew down 37 DIP debt issues for a total amount of HK\$8.5 billion. As at end of 2004, the total outstanding amount of the DIP debts was HK\$27.3 billion.

### Retail Bond Issuance Programme

Following the successful pioneer tapping of the retail bond market with a new offering mechanism in November 2001, the Corporation established a HK\$20 Billion Retail Bond Issuance Programme (RBIP) and also made a debut issue in June 2004. Under this Programme, banks use their retail branch networks, telephone and electronic banking facilities to act as Placing Banks to place debt securities issued by the Corporation to retail investors. To ensure that the bonds held by retail investors can be sold at any time before maturity, the Placing Banks for our retail bonds have committed to making firm bid prices for the bonds in the secondary market.

The debut issue attracted the participation of all the 19 Placing Banks on the Programme. The Placing Banks altogether opened a network of 860 branches and also set up telephone and electronic facilities to accept retail investors' applications. An aggregate amount of HK\$1.7 billion was raised through the three tranches of the issue. This brings the total of retail bonds issued to HK\$10.4 billion since 2001. As at end 2004, the total outstanding amount of retail bonds issued by the Corporation stood at HK\$7.2 billion.

**FIGURE 11**  
**Hong Kong Dollar Debt Issuers League Table 2004**

Source: HKMC and Informa Global Markets

Rank	Issuer	No. of Issues	Amount (HK\$ million)	Percentage
1	Hong Kong Mortgage Corporation	39	11,399	8.5%
2	Westpac Banking Corporation	46	5,532	4.1%
3	DBS Bank	31	5,185	3.9%
4	Commonwealth Bank of Australia	37	4,876	3.6%
5	Australia & New Zealand Banking Group	29	4,351	3.2%
6	National Australia Bank	12	4,038	3.0%
7	CITIC Ka Wah Bank	11	3,393	2.5%
8	Rabobank Nederland	21	3,125	2.3%
9	HBOS	26	2,927	2.2%
10	HSBC	23	2,767	2.1%
	<b>Top Ten Issuers</b>	<b>275</b>	<b>47,593</b>	<b>35.4%</b>
	Others	498	86,672	64.6%
	<b>TOTAL</b>	<b>773</b>	<b>134,265</b>	<b>100.0%</b>

Note: Figures do not include the Hong Kong SAR Government Bond, Exchange Fund Bills and Notes

**FIGURE 12**  
**HKMC's Credit Rating**

	Moody's		S&P	
	Short-term	Long-term	Short-term	Long-term
Foreign currency (Outlook)	P-1 (stable)	A1 (stable)	A-1 (stable)	A+ (stable)
Local currency (Outlook)	P-1 (stable)	Aa3 (stable)	A-1+ (stable)	AA- (stable)

To facilitate and enhance retail investors' understanding of our retail bonds, a summary of the key terms and conditions of the issue was set out in a 1-page flyer for public distribution. In terms of content, the flyer provided concise details on application procedures, and feature of the notes offered to enable investors to grasp the key information more easily. In addition, to attract the attention of retail investors, the front page of the prospectus was designed in colourful, poster-like manner: a first for the Hong Kong retail bond market.

As one of the most active bond issuers with a strategic mission of promoting local debt market development, the HKMC will continue to launch new debt issuances in both the institutional and retail markets. This will not only help to diversify the Corporation's funding base, but also provide institutional and retail investors with high-quality debt investments to satisfy their need for portfolio diversification and yield enhancement.

### Credit Ratings

The Corporation's ability to attract investors to invest in our debt securities is underpinned by the high credit ratings accorded by Moody's and S&P. After their annual surveillance visits in May 2004, the credit rating agencies re-affirmed our high credit ratings and stable outlook, which are the same as those of the Hong Kong SAR Government (Figure 12).

The credit rating agencies made very positive comments on our credit standing. The following comments are extracts from their credit rating reports 2004:

#### Moody's

*"Hong Kong Mortgage Corporation's Aa3 long-term local currency debt ratings reflects its unique franchise and the solid support it receives from the Hong Kong SAR government... Its professional management team has managed to generate relatively good growth as well as improving earnings and asset quality against the backdrop of a very difficult housing market. The market upturn since the latter part of 2003, if*

*sustainable, should bolster HKMC's performance going forward."*

*"HKMC has managed to maintain its strong asset quality, even as its retained mortgage portfolio grew and the economic environment deteriorated in 2003."*

*"HKMC's diversified funding sources continue to support the growth of its business and lower liquidity risk."*

#### S&P

*"HKMC has a solid capital base, good asset quality, adequate profitability, and adequate financial flexibility."*

*"The quality of HKMC's residential mortgage portfolio is expected to remain good."*

*"HKMC's liquidity is well managed. The corporation maintains a reasonably good level of liquid assets in the form of marketable debt securities, and cash and bank deposits maturing within 12 months."*

*"Outlook: HKMC is expected to continue to benefit from its market position as the major purchaser of residential mortgages in Hong Kong, its strong financial profile, and its implied support from the government of the HKSAR. The corporation is likely to be able to manage interest rate risk, i.e. any change in reference rates, and control the resulting impact on the profitability."*

### Mortgage-Backed Securitisation

For the efficient issuance of MBS, the Corporation has in place two mortgage-backed securitisation programmes, namely, the Guaranteed Mortgage-Backed Pass-Through Securitisation Programme and the Bauhinia Mortgage-Backed Securitisation Programme.

MBS are powerful financial instruments that can channel long-term funding from the debt market to supplement bank financing of mortgage loans. Banks and financial institutions can also make use of MBS to manage risks relating to credit, liquidity, interest rate and asset liability maturity

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mismatch inherent in mortgage loans. A deep and liquid MBS market can help enhance the development of an efficient secondary mortgage market and further promote Hong Kong as an international financial centre.

**Guaranteed Mortgage-Backed Pass-Through Securitisation Programme**

This first MBS securitisation programme of the HKMC was established in October 1999, targeting banks that did not want to off-load mortgage loans, but wished to enjoy the benefits of holding MBS which are guaranteed by the HKMC.

Under this Programme, a back-to-back structure allows the HKMC to acquire mortgage loans from a bank and then sell them directly to a bankruptcy remote special purpose entity (SPE). The SPE, as issuer of the MBS, in turn issues the MBS to the bank. Through securitisation under this Programme, banks can convert illiquid mortgage loans into liquid MBS. Furthermore, for capital adequacy requirements, those MBS guaranteed by the HKMC are assigned a 20% risk weighting under the capital adequacy requirements of the Banking Ordinance as opposed to 50% for mortgage loans, thereby allowing banks to utilise their capital more efficiently. Since the inception of the Programme,

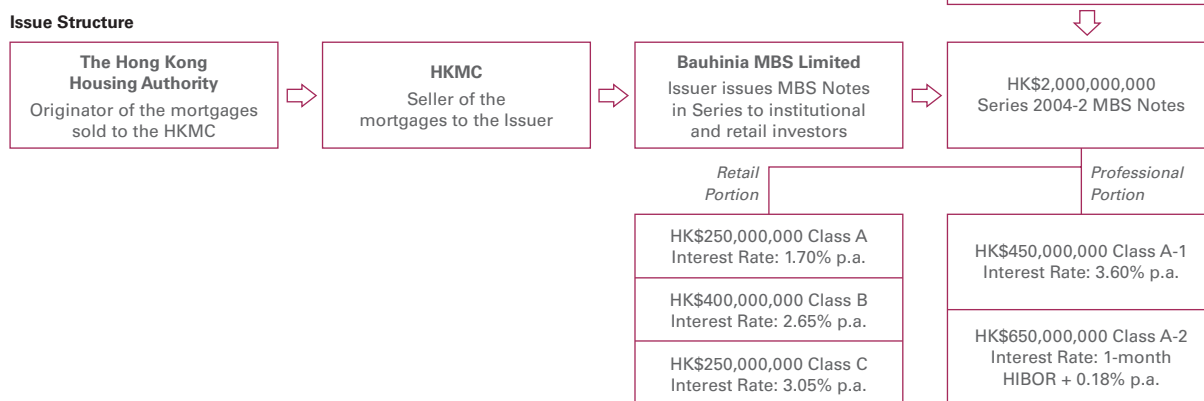
four series of MBS have been issued under the Programme with a total amount of HK\$2.8 billion.

**Bauhinia Mortgage-Backed Securitisation Programme**

The Bauhinia Mortgage-Backed Securitisation Programme established in December 2001 is a US\$3 billion multi-currency mortgage-backed securitisation programme. It provides a convenient, flexible and cost-efficient platform to originate MBS with various product structures, credit enhancements and distribution methods. MBS issued under the Bauhinia Mortgage-Backed Securitisation Programme have the trading and settlement characteristics of a eurobond. Trading of the MBS is therefore made more convenient and efficient in the secondary market.

Since the inception of the Bauhinia Mortgage-Backed Securitisation Programme, the Corporation has successfully securitised HK\$7.4 billion mortgage loans through three public issues and one private placement issue. The debut Bauhinia MBS issue with a size of HK\$2 billion was made in March 2002. The second issue of HK\$3 billion was launched in November 2003, which was the largest ever Hong Kong dollar denominated residential MBS. The latest public issue of HK\$2 billion, which was split into two

**FIGURE 13**  
**Bauhinia MBS Limited**  
**HK\$2,000,000,000 Mortgage Backed Securities issued**  
**under Bauhinia Mortgage-Backed Securitisation Programme**



portions for institutional and retail investors respectively, was made in November 2004 (Figure 13).

The professional portion with an aggregate amount of HK\$1.1 billion attracted a strong investor interest from pension funds, investment funds, insurance companies and banks. The MBS were backed by mortgage loans purchased by the HKMC from the Hong Kong Housing Authority. The retail portion was the first ever retail MBS offered in Hong Kong and the whole of Asia and consisted of three retail tranches totalling HK\$900 million, which were well received by retail investors. The retail MBS were distributed through 900 bank branches and the telephone and electronic banking networks of the 19 Placing Banks. The Placing Banks have committed to quoting firm bid prices to retail investors, thereby ensuring retail investors an avenue to liquidate their holdings in the secondary market. Following the success of the debut retail bond issue under the RBIP, the MBS prospectus for the retail portion was also prepared in plain language, with key information laid out in a clear and concise two-column format and a colourful, poster-like cover for the prospectus. The response to this reform of our prospectus was very good.

## Risk Management

Prudent risk management is a fundamental and integral part of the Corporation's operations and one of the crucial factors in sustaining the continuing growth in corporate earnings and profits. The HKMC implements a robust risk management framework as described below. The four major risk areas facing the HKMC are credit risk, interest rate risk, liquidity risk and operational risk.

### a) Credit Risk

Credit risk is the primary risk exposure for the HKMC. It represents the risk of default of loan borrowers or other counterparties and that amounts owed cannot be fully recovered.

The credit quality of the HKMC's mortgage portfolio has all along remained consistently good, even in light of the rapid growth of the portfolio over the past few years. The delinquency ratio for the retained portfolio as a whole (including mortgage loans securitised with the Corporation's guarantee) was 0.36% as at December 2004, compared with 0.77% as at December 2003. If rescheduled loans are included, the combined ratio of 0.54% compared favourably with the combined ratio of 0.85% for delinquent and rescheduled loans for the industry as a whole. This bears testimony to our strong emphasis on combining loan growth with prudent risk management.

- At the heart of the credit risk management framework are two committees, the Credit Committee and the Transaction Approval Committee (formerly known as the Pricing Committee).

#### **Credit Committee**

The Credit Committee is vested with the task of setting the Corporation's overall credit policies and standards, notably for mortgage purchase and insurance, which are benchmarked against those adopted by the banking and insurance industries. The Committee makes recommendations to the Board for the approval of such policies as appropriate. It oversees the implementation of approval authority to accept applications to become Approved Sellers/Service providers under the Mortgage Purchase Programme and Approved Reinsurers under the MIP, the setting and monitoring of risk exposure limits for business counterparties and the making of recommendations to Senior Management on appropriate follow-up actions.

#### **Transaction Approval Committee**

The Transaction Approval Committee is responsible for assessing the credit risks of and proposing the terms and conditions for new products under the areas of mortgage purchase, mortgage insurance and MBS, taking into consideration the latest market conditions and business strategies. The Committee also presents

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in-depth analyses of potential transactions for internal approval, prior to their submission to the Executive Director for the necessary approval.

Both Committees are chaired by the CEO and its members include the Senior Vice President (Finance), the Senior Vice President (Operations), the General Counsel and senior staff of the Operations Division and the Finance Division.

To address credit risk effectively, the Corporation adheres to a four-pronged approach to maintain the asset quality of its mortgage loan and MIP portfolios:

- Careful selection of Approved Sellers;
- Prudent mortgage purchasing criteria and insurance eligibility criteria;
- Effective due diligence review process; and
- Adequate protection for higher-risk mortgages or transactions.

#### **Careful selection of Approved Sellers**

The HKMC conducts a detailed due diligence assessment of a potential seller of mortgage loans prior to its appointment as Approved Seller/ Servicer. The assessment covers a broad range of credit-related matters, focusing primarily on the seller's mortgage loan underwriting policies, historical delinquency experiences and loan

servicing capabilities. Once approved, the Approved Seller/Servicer is subject to periodic reviews.

#### **Prudent mortgage purchasing and insurance eligibility criteria**

The HKMC adopts prudent mortgage purchasing criteria to confine its purchases only to mortgages secured by owner-occupied properties. The Borrowers' repayment ability is also carefully evaluated by using key indicators such as debt-to-income ratio (normally less than 50%) and any exposure to outside debts. Other relevant criteria are in line with best market practices adopted by the banking industry. For mortgage insurance, prudent eligibility criteria and underwriting guidelines are implemented strictly in line with the agreement reached with the Approved Reinsurers on different MIP products.

#### **Effective due diligence process**

As an integral part of the risk management framework, the HKMC conducts due diligence reviews of a sample of acquired mortgage loans before and after their purchase to ensure compliance with the Corporation's mortgage purchasing criteria.

#### **Adequate protection for higher-risk mortgages**

For products involving a higher degree of credit risk such as top-up loans, the HKMC has established credit enhancement arrangements such as repurchase warranties or reserve funds in order to mitigate the additional credit risk associated with these loans.

#### **b) Interest Rate Risk**

Net interest income is the predominant source of the Corporation's earnings. It represents the excess of interest income from the retained mortgage portfolio, cash and debt investments over interest expenses on short and long-term borrowings. Interest rate risk will arise when changes in market interest rates affect the income and expenses derived from the asset-liability portfolio.

The primary objective of interest rate risk management is therefore to limit the potential



*Transaction Approval Committee Meeting*

adverse effects arising from interest rate movements on interest income / expenses and, at the same time, achieve a stable growth in earnings. The interest rate risks faced by the Corporation are threefold.

***Interest rate mismatch risk***

Interest rate mismatch risk is the most significant type of interest rate risk affecting the HKMC's net interest income. It arises mainly as a result of the differences in the timing of interest rate re-pricing for the Corporation's interest-earning assets and interest-bearing liabilities. Interest rate mismatch risk is most evident in the retained mortgage portfolio where the majority of the loans are floating-rate loans benchmarked against the Prime rate or Hong Kong Interbank Offered Rate (HIBOR), whilst on the other hand the majority of our liabilities are fixed-rate debt securities.

The Corporation makes prudent use of a range of financial instruments such as interest rate swaps, interest rate swaptions, basis swaps, forward rate agreements and the issuance of MBS to manage the interest rate mismatch risk. The proceeds of the fixed-rate debt securities are generally swapped into HIBOR-based funds via interest rate swaps. Through the use of such swaps, interest expenses arising from the issuance of debt securities will be changed from a fixed-rate basis to a floating-rate basis in order to better match the floating-rate income from the mortgage assets.

The Corporation also makes use of duration gap as an indicator to monitor and manage interest rate mismatch risk. Duration gap measures the difference in interest rate re-pricing intervals between assets and liabilities. The wider a duration gap, the higher is the interest rate mismatch risk, and vice versa. A positive duration gap means that the duration of assets is longer than that of the liabilities and represents a greater risk exposure to rising interest rates. On the other hand, a negative duration gap indicates a greater risk exposure to declining interest rates. Depending on the prevailing interest rate outlook and market conditions, the Corporation

proactively re-balances the duration gap of our asset-liability portfolio under the guidance and supervision of the Asset and Liability Committee (ALCO). A cap of three months for the duration gap has been set by the ALCO to limit the interest rate mismatch risk. Throughout 2004, the actual duration gap has been kept within one month, indicating that the Corporation is handling interest rate mismatch risk in a very prudent manner.

***Basis risk***

Basis risk represents the difference in basis of the Corporation's interest-earning assets that are Prime-based and interest-paying liabilities that are HIBOR-based. There are limited financial instruments currently available in the market to hedge the Prime-HIBOR basis risk fully. In general, basis risk can only be effectively addressed when mortgage loan assets are based on HIBOR to match with the funding base or when related risk management instruments become more prevalent or economical. Over the past few years, the Corporation has consciously adopted the strategy of acquiring more HIBOR-based assets and at the end of 2004, about three-quarters of the Corporation's mortgage portfolio are HIBOR-based loans. As a result, the Prime-HIBOR basis risk for the Corporation has been substantially reduced compared to previous years. In addition, the issuance of Prime-based MBS and the use of average HIBOR swaps have also been deployed to mitigate the basis risk of the Prime-based portion of the Corporation's mortgage portfolio.

***Maturity mismatch risk***

While the contractual maturity of a mortgage loan can go up to 30 years, the average life of a portfolio of mortgage loans is in reality much shorter. The average life will depend on the speed of scheduled mortgage repayments and unscheduled prepayments. Higher prepayment rates will shorten the average life of a portfolio of mortgage loans. In Hong Kong, prepayment occurs for two main reasons: (i) housing turnover – borrowers repaying their mortgages upon the sale of the underlying property; and (ii)

## BUSINESS OVERVIEW

refinancing – borrowers refinancing their mortgage loans to obtain lower mortgage rates.

The maturity mismatch risk can be more specifically analysed as reinvestment risk and refinancing risk. Reinvestment risk refers to the risk of a lower return from the reinvestment of proceeds received by the Corporation (from prepayment and repayment of mortgage loans). Refinancing risk, on the other hand, is the risk of refinancing liabilities at a higher level of interest rate. The Corporation is exposed to refinancing risk when it uses short-term liabilities to finance long-term mortgage assets.

Reinvestment risk is managed through the ongoing purchases of new mortgage loans to replenish the repaid mortgages in the retained portfolio and the investment of surplus cash in debt securities or cash deposits to fine-tune the average life of the overall pool of assets.

Refinancing risk is managed through the issuance of callable bonds and transferable loan certificates. The call option included in callable bonds and transferable loan certificates will allow the Corporation to adjust the average life of its liabilities to match more closely that of the overall pool of assets. In this regard, the Corporation has the flexibility of issuing debt securities on a broad spectrum of maturities ranging from 1 year to 15 years. This will again serve to adjust the average life of the overall liability portfolio in a dynamic fashion. In addition, refinancing risk can be mitigated by adjusting the maturities of assets in the investment portfolio and off-loading mortgage assets through securitisation of mortgage loans as MBS.

### c) Liquidity Risk

Liquidity risk represents the risk of the Corporation not being able to repay its obligations (such as redemption of debt issuance) or to fund committed purchases of mortgage loans. Liquidity risk is managed via monitoring the actual inflow and outflow of funds on a daily basis and projecting longer-term inflows and outflows of funds across a full maturity spectrum.

The Corporation has successfully established well-diversified funding sources to support the growth of its business and the maintenance of a well-balanced portfolio of liabilities. The diversification allows us to pursue a strategy of funding business activities at the lowest possible cost whilst at the same time offering safeguards against the inability to raise funds in unfavourable market conditions. The funding sources currently comprise:

- (i) Shareholders' Capital: authorised capital of HK\$3 billion, of which HK\$2 billion is fully paid up. Accumulated shareholders' funds amounted to HK\$4.2 billion as at 31 December 2004;
- (ii) HK\$40 Billion Debt Issuance Programme: there are 6 Primary Dealers and 15 Selling Group Members which will underwrite and distribute debts to institutional investors under the DIP. The Transferable Loan Certificate Sub-Programme under the DIP provides a further diversification of funding sources and broadening of investor base;
- (iii) HK\$20 Billion Retail Bond Issuance Programme: this debt issuance programme has 19 Placing Banks which will assist in offering retail bonds to investors;
- (iv) US\$3 Billion Bauhinia Mortgage-Backed Securitisation Programme: With a total of 8 Dealers, this multi-currency mortgage-backed securitisation programme permits the HKMC to originate MBS in the local and international markets;
- (v) Cash and Debt Investment Portfolio: the Portfolio comprises cash and bank deposits, high-quality certificates of deposit, notes and MBS that can be readily converted into cash;
- (vi) HK\$10 Billion Revolving Credit Facility: this is a commitment from the Exchange Fund to provide the Corporation with a HK\$10 billion revolving credit;

(vii) Money Market Lines: the Corporation has procured money market lines from a large number of local and international banks for short-term financing.

#### **Asset and Liability Committee**

The ALCO is established with the CEO as Chairman, the Senior Vice President (Finance), the Senior Vice President (Operations), and senior staff of Treasury, Financial Control and Pricing, Credit and Risk Management Departments as members. The ALCO performs the important task of managing the Corporation's asset-liability portfolio based on prudent risk management principles. Strategies on interest rate risk management, financing, hedging, investments are formulated by the committee. A weekly meeting is held to review the latest conditions in the financial markets and the asset-liability portfolio mix.

The ALCO oversees the implementation of risk management and investment guidelines approved by the Board of Directors. The Treasury Department is responsible for monitoring financial market movements and executing transactions in the cash, derivatives and debt markets in accordance with the strategies laid down by the ALCO. The Financial Control Department assumes a middle office role and monitors the compliance of counterparty and transactions risk limits.

Various credit rating agencies have made positive comments about the Corporation's disciplined risk management approach. Moody's comments that "HKMC's Asset-Liability Management is well developed within the constraints of the local markets, such as the availability of tools and long-term funding. Liquidity is good. Of specific note is HKMC's strategy to minimise maturities mismatch and basis risk....HKMC's ability to assess and manage risks has resulted in acceptable risk levels well within the Corporation's own guidelines and, in some instances, superior than some of its larger international peers."

#### **d) Operational Risk**

Operational risk represents the potential loss as a result of the occurrence of certain internal or external operational activities. The HKMC seeks to minimise the possibility of such occurrence by maintaining a comprehensive system of internal controls and procedures. To ensure adequate compliance, the Corporation's key operating systems and processes are subject to regular audit and review by both internal and external auditors.

To reduce potential human errors, the HKMC applies extensive technology solutions to its business operations, including those based on the Internet. The Corporation has established a comprehensive disaster recovery plan and business continuity plan, including the establishment of an offsite back-up centre, to ensure that its information technology (IT) systems can continue operating even in the event of a core system's failure or other unexpected major disruptions.

In order to strengthen its operational infrastructure with greater resilience and operational robustness and efficiency, the Corporation conducted a comprehensive process reengineering review of its treasury and mortgage insurance operations in 2004.



*Asset and Liability Committee Meeting*



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Recommendations arising from the review have been examined and adopted by Management and systems enhancement and operational improvements will be implemented in 2005.

### New Information Technology

Automation of operational systems is the key to ensuring efficiency and accuracy in the Corporation's daily operations. Since inception, the Corporation has been developing and installing various computer systems. Our IT Strategy Study Report, commissioned in 1999, recommended that an Internet-based communication link be established to support straight-through processing of transactions between the HKMC and its business partners, that the IT architecture be overhauled to maximise efficiency and flexibility, and that the old computer systems be migrated to a new platform. Phase I of the Integrated Information Delivery System (IIDS) was successfully rolled out in 2002. The IIDS provides an e-commerce platform net which links with the Corporation's business partners for mortgage sale and purchase, mortgage servicing and mortgage insurance activities.

In the light of the robust growth in the mortgage insurance business, the Corporation kicked off the Phase II development in January 2004. It aims to migrate the existing Mortgage Insurance Tracking System to a more robust and maintainable platform, namely the Mortgage Insurance Programme System (MIPS), to manage the supporting documents for underwriting. New functions will also be introduced to improve the efficiency and productivity of the MIP business. This MIPS is expected to roll out in May 2005.

### Debt Market Regulatory Reform

The debt issuance activities of the Corporation are subject to the legal and regulatory framework of the securities laws of Hong Kong. Being the most active corporate Hong Kong dollar debt

issuer, the HKMC is a key member of the Working Group for Debt Market Development convened by the Financial Services and the Treasury Bureau.

Having experienced and overcome the various impediments posed by both the substantive law and the procedural regulations on debt issuance, the HKMC actively participated in the Working Group in the preparation of the road map for legislative and regulatory reforms of the debt market.

#### Companies (Amendment) Ordinance 2004

The ensuing three-phase reform commenced in 2003 and continued to bear fruit in 2004:

- Phase I: Guidelines were issued by Securities and Futures Commission (SFC) in February 2003, allowing the issue of "offer awareness materials", a relaxation of procedures on registration of a prospectus, and the use of a "dual prospectus" structure to facilitate programme type offering structures.
- Phase II: the SFC Guidelines were given statutory footing and other "quick fix" amendments (such as giving the dual prospectus structure legislative recognition and levelling the playing field between Hong Kong incorporated companies and non-Hong Kong incorporated companies) were made to the Companies Ordinance in July 2004.
- Phase III: Comprehensive review of the legal and regulatory framework governing public offers of shares and debentures will be undertaken.

Capitalising on the enhanced efficiency in debt issuance and the changes in the regulatory environment brought about by Phases I and II of the reform effort, the HKMC set up its HK\$20 Billion RBIP with a view to making future issues in the retail market as simple and cost-effective as issues directed at the professional market. Distinguishing features of the retail bond programme include:

- adoption of the dual prospectus structure;
- adoption of the plain language approach recommended by the SFC; and
- adoption of a marketing-oriented design for the cover page of the prospectus to coordinate with other marketing materials for the offer.

By dispensing with unnecessary and tedious repetition of information, both the programme and issue prospectuses have been considerably shortened without omission of relevant information and disclosure to investors. The plain language prospectus was again adopted in our HK\$2 billion MBS issue launched in November 2004 in respect of the retail portion targeted at Hong Kong retail investors.

The use of plain language prospectuses by the HKMC was a trend-setting move for retail bond offers in Hong Kong. Since then, there has been increased willingness to consider the use of plain language prospectuses by corporate issuers in debt issues and by investment banks in offers of more complicated structured finance products. Such prospectuses will better fulfill their intended role of informing investors by providing information in a manner which is useful and easily understood.

## Human Resources

### Staffing

The HKMC continued to attract and also train up professionals with expertise in secondary mortgage market. Through system automation and process re-engineering, the Corporation has been able to maintain a lean and efficient workforce. The permanent establishment was maintained at 100 in 2004. A total of 17 new posts will be added in 2005 mainly to cope with the rapid growth in mortgage insurance business.

The Corporation experienced a higher staff turnover rate of 17.3% in 2004 (2003: 10.4%), in particular for staff of the junior ranks.



*Dress Casual Day*



*Chinese Calligraphy Interest Class*



*HKMC Soccer Team*



Erhu Interest Class



HKMC Basketball Team



HKMC Music Group Performance in Po Leung Kuk

### Training and Development

The HKMC has devoted considerable training resources to equip its staff with professional knowledge and skills. During the year, the HKMC arranged a number of in-house and external courses to improve the managerial and technical skills of our staff. Courses were offered to cover mortgage operations, delinquency management, information technology, credit management and other mortgage-related issues. A series of in-house tailor-made customer service training workshops, which included experience sharing sessions from different departments, was launched in late 2004.

New staff attended an induction programme which gave them an overall orientation of the Corporation's operations as well as their own area of work.

### Employee Relations and Staff Activities

To better incorporate new ideas for the design of staff activities and enhance employee relationships and communication, the HKMC Staff Club with representatives from all departments was formed during the year. Staff activities included performances by the HKMC Music Group and interest classes in Chinese calligraphy and Erhu. Health seminars and hiking activities were also organised and well received by staff. Sports activities included the HKMC's participation in the Public Organisation Challenge Soccer League and the Supervisory Cup Basketball Competition with other public organisations.

In the community context, the HKMC supported a number of charitable and fund-raising activities throughout the year. These included the HKMC Music Group's performance to raise funds for China Education Project of Po Yin Association, Children's Heart Foundation and staff participation in Hong Kong Red Cross Blood Donation Day and Dress Casual Day. In February 2004, the HKMC Music Group together with a team of volunteers from various departments visited the children in Po Leung Kuk.

## Administration

### Office Relocation

The HKMC moved to new offices at Two International Finance Centre in July 2004. The relocation process was completed smoothly without any interruption to normal operations. The new office became fully operational on 19 July 2004.

### Office Administration

The HKMC continued to support and implement green office measures to make the office more environmentally friendly. Staff awareness of environmental issues was enhanced through increased use of electronic communications and recycling of waste paper. The HKMC also encouraged its staff to make suggestions for a greener office.

## 2005 Outlook

For our core business of mortgage purchase, we have successfully managed to diversify the sources of mortgage supply from Authorized Institutions originally to the Hong Kong SAR Government, public sector housing agencies and property developers. This allows the HKMC a higher degree of flexibility in responding to the changing environment of the mortgage market. We are also on a constant lookout for new products and business opportunities, with a view to broadening the business horizon of the Corporation. One such possibility is the reverse mortgage, which is a product already available in developed countries such as the US and the UK.

Looking ahead, the Corporation will continue to strive to fulfill its mission of developing a secondary mortgage market in Hong Kong. Building on the platform established over the past seven years, the Corporation is well positioned to further its objective of maintaining banking stability, promoting home ownership and developing Hong Kong's debt market. In pursuit of this objective, we will maintain close working

relationships with the banks, the general public, government agencies, regulators and consumer organisations. In particular, this applies to the MIP where the Corporation has put in tremendous and continual efforts in the past few years to build up a good rapport and increasing public acceptance for the programme. The MIP can also play a part in fulfilling social objectives, as demonstrated by the expansion of the programme to include old-aged properties rehabilitated under the Urban Renewal Authority's schemes. We will continue to take into consideration demands from the public and the banking sector and take active steps to ensure that higher loan-to-value financing will become more and more widely available, but at the same time without incurring additional significant risks to the Corporation.