The *Bauhinia blakeana* (or Hong Kong orchid tree), discovered on Hong Kong Island in the late nineteenth century, is Hong Kong's regional emblem, and its flower appears on Hong Kong's regional flag and on its currency. The flower also forms part of the emblem of the HKMA. Its two-lobed leaf, with its prominent veins, is known in Hong Kong as the "clever leaf" and is often used as a bookmark.

MARKET INFRASTRUCTURE

Promoting a sound financial market infrastructure is one of the main policy objectives of the HKMA. In 2004 the new Clearing and Settlement Systems Ordinance came into force to further promote the safety and efficiency of clearing and settlement systems in Hong Kong. System improvements helped to ease banks' liquidity pressure at times of large fund flows related to IPOs. The Hong Kong dollar was included in the Continuous Linked Settlement System. The HKMA also improved co-ordination with the financial industry through the establishment of the Treasury Markets Forum.

OBJECTIVES

One of the HKMA's key policy objectives is to promote the development of a safe and efficient financial market infrastructure in Hong Kong. This serves two inter-related purposes: to help maintain Hong Kong's financial and monetary stability; and to help maintain Hong Kong's status as an international financial centre. Robust and efficient clearing and settlement systems are important in maintaining the competitiveness of Hong Kong's financial sector. The HKMA pays particular attention to clearing and settlement systems for funds and securities transfers within Hong Kong, and between Hong Kong and the Mainland and financial centres overseas.

REVIEW OF 2004

Payment Systems

Hong Kong dollar interbank payment system

The Clearing House Automated Transfer System (CHATS) is Hong Kong's Real Time Gross Settlement (RTGS) system, which was introduced in 1996. It provides Hong Kong with a safe and efficient interbank payment system with the following features:

(a) a single-tier system, in which all licensed banks maintain settlement accounts with the HKMA;

(b) interbank payments settled real-time on an individual and gross basis using central banking funds across the books of the HKMA;

(c) intraday liquidity provided through highly automated intraday repo facility using Exchange Fund Bills and Notes;

(d) a central queuing system for unsettled payment messages, which can only be cancelled, resequenced or amended by the paying banks;

(e) a capability for developing payment-vs-payment (PvP) links with other payment systems to reduce settlement risk in foreign exchange transactions; and

(f) a seamless interface with the Central Moneymarkets Unit (the debt securities clearing and settlement system operated by the HKMA) to offer real-time delivery-vs-payment (DvP) and end-of-day DvP functions.

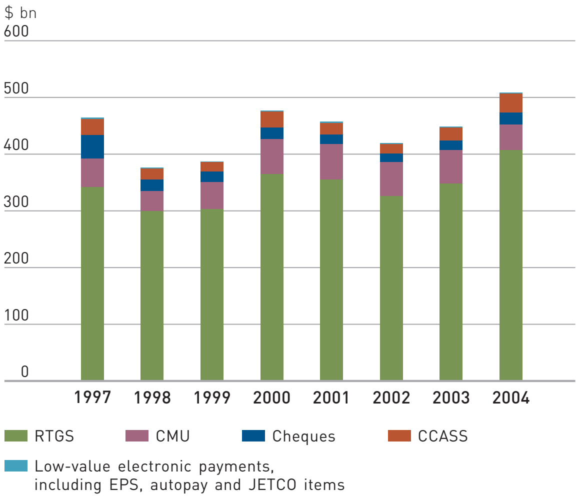
System operations in 2004

The system operator of CHATS is Hong Kong Interbank Clearing Limited (HKICL), a company established in 1995 and equally owned by the HKMA and the Hong Kong Association of Banks. In 2004 HKICL processed a daily average value of $407 billion in CHATS transactions (14,736 items in volume), and $17.1 billion in Central Moneymarkets Unit (CMU) secondary market transactions (122 items in volume).

Apart from providing for the settlement of large-value payments, CHATS also handles four daily bulk clearings for the money settlement of stock market transactions (CCASS), cheques, low-value bulk electronic payment items (EPS and autopay), and low-value ATM transfers (JETCO) (Chart 1).

During the year banks made good use of their Exchange Fund Bills and Notes to obtain interest-free intraday liquidity through conducting intraday repo transactions with the HKMA for settlement of interbank payments. On average, $27 billion worth of intraday repo transactions were carried out daily to facilitate payment flows. This represented about 26% of the $103 billion Exchange Fund paper held by banks in December 2004.

CHART 1 Hong Kong dollar payment system daily average turnover



System improvements

The HKMA introduced the CHATS Optimiser in June 2004 with a view to easing banks' liquidity pressure, particularly during times of large fund flows associated with initial public offerings (IPOs). Since its introduction, the CHATS Optimiser has been widely used by banks. It enables banks to better manage their liquidity, facilitates the recycling of liquidity to the market, and smoothes payment flows (Box).

In October 2004 the operating time of the RTGS systems in Hong Kong was extended to cover typhoon and rainstorm days. This will align Hong Kong with the international practice of normal operation regardless of adverse weather conditions.

BOX

The CHATS Optimiser

The CHATS Optimiser is a system mechanism that settles paper cheques and large-value CHATS payments simultaneously and in an offsetting manner. Paper cheques are settled daily in a bulk run at a specific time by multilateral netting. When the gross amounts required to settle paper cheque payments are substantial, banks, having known their net cheque settlement positions, can make use of the CHATS Optimiser to make offsetting CHATS payments to their counterparties *during* the bulk settlement run. This improves the funding management efficiency of the banks by alleviating them from the need to sit on substantial amounts to settle the payment obligations at the time of the bulk settlement run.

Foreign currency payment systems in Hong Kong

Since their launch in 2000 and 2003 respectively, Hong Kong's US dollar and euro clearing systems have been operating efficiently. Special features of the two systems include

(a) seamless interface with the Hong Kong dollar clearing system, enabling PvP settlement of Hong Kong dollar/US dollar/euro foreign exchange transactions;

(b) seamless interface with the CMU to provide settlement of US dollar/euro-denominated debt instruments on a DvP basis;

(c) elimination of risk arising from settlement of the two legs of a foreign transaction in different time zones;

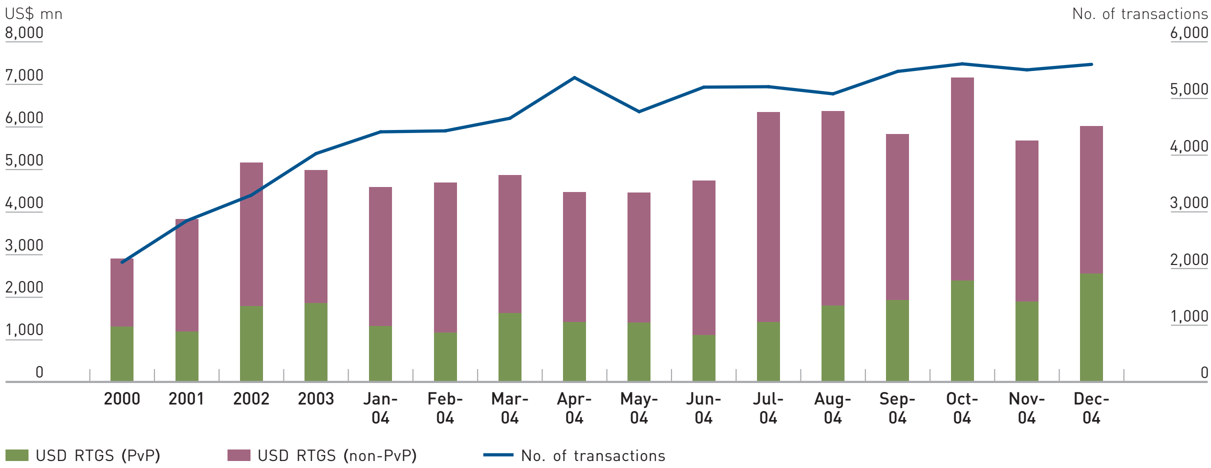
(d) lessening of the constraint of bilateral counterparty trading limits with the elimination of risk; and

(e) improvements in liquidity management since the traded currencies can be recycled immediately.

US dollar clearing system

The settlement institution for the US dollar clearing system is The Hongkong and Shanghai Banking Corporation, with HKICL as system operator. At the end of 2004 there were 68 direct and 164 indirect participants in the system, including 119 indirect participants from outside Hong Kong. In 2004 the system handled an average of 5,033 transactions a day with a total value of over US$5.51 billion (Chart 2). In 2004 an average of 3,824 US dollar cheques were processed daily, with a total value of over US$118 million.

CHART 2 US dollar RTGS system daily average turnover



Euro clearing system

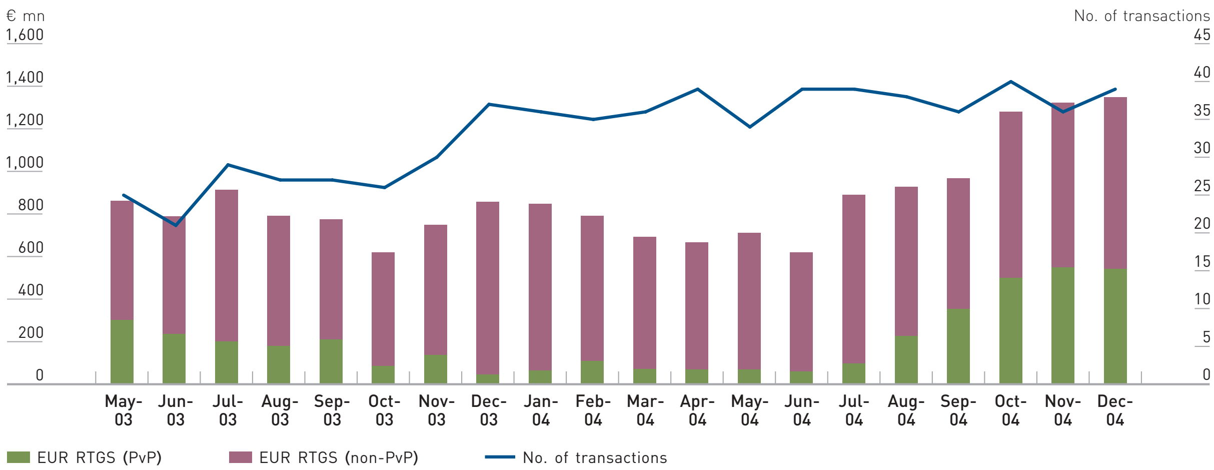
The settlement institution for the euro clearing system is Standard Chartered Bank (Hong Kong) Limited, with HKICL as system operator. At the end of 2004 there were 23 direct and 21 indirect participants in the system, including 11 indirect participants from outside Hong Kong. In 2004 the system handled an average of 37 transactions a day with a total value of over €923 million (Chart 3).

Continuous Linked Settlement

On 6 December 2004 the Hong Kong dollar was included in the Continuous Linked Settlement (CLS) System – a global clearing and settlement system for cross-border foreign exchange transactions. The inclusion enables foreign exchange transactions involving the Hong Kong dollar to be settled through the CLS System on a PvP basis, thus removing the settlement risk in these transactions.

As with the other important clearing and settlement systems in Hong Kong, the finality of settlement for transactions made through the CLS is protected by the laws of Hong Kong, and the CLS is a clearing and settlement system designated under the Clearing and Settlement Systems Ordinance. The participation of the Hong Kong dollar in the CLS System is a further endeavour by the HKMA to eliminate the risk arising from settlement of the two legs of a foreign transaction in different time zones. It provides banks in Hong Kong with an additional channel to settle foreign exchange transactions in a safe and efficient manner. In December 2004 the average daily turnover of CLS-related RTGS turnover in the Hong Kong dollar RTGS system was $22 billion (including both from banks to CLS account in Hong Kong and vice versa).

CHART 3 **Euro RTGS system daily average turnover**



Payment linkages with Mainland China

Good progress was made during the year in developing cross-border financial infrastructure between Hong Kong and Mainland China. These payment linkages helped meet the growing needs of cross-border payment flows brought about by increasing economic ties.

The average daily turnover of these linkages (RTGS and cheque, Hong Kong dollar and US dollar) with Guangdong Province and Shenzhen increased to the equivalent of $850 million in December 2004 (Chart 4).

RTGS system linkages

In March 2004 the HKMA and the Guangzhou branch of the People's Bank of China (PBoC) introduced cross-border system linkages for Hong Kong dollar and US dollar RTGS payments between banks in Hong Kong and Guangdong Province. This arrangement was an extension of similar system linkages between Hong Kong and Shenzhen completed in 2003. With these linkages, payments in Hong Kong dollars and US dollars between banks in Hong Kong and Guangdong Province and Shenzhen can be made in a more efficient and safe manner.

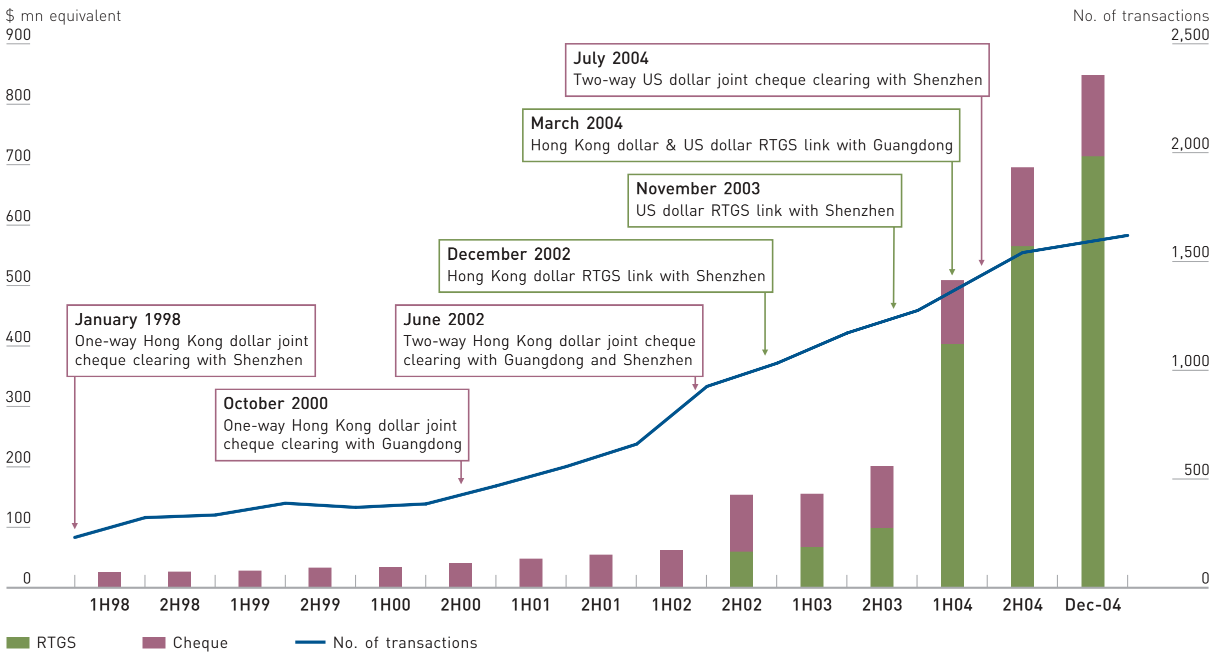
In 2004 the RTGS system linkages with Guangdong Province and Shenzhen handled around 12,000 transactions, with a total value of over $113 billion equivalent.

Joint cheque clearing

With the co-operation between the HKMA and Shenzhen central sub-branch of PBoC, the existing Hong Kong dollar joint cheque clearing facilities between Shenzhen and Hong Kong were extended in July 2004 to cover US dollar cheques. This shortened the clearing time for US dollar cheques drawn on banks in Hong Kong and presented in Shenzhen, and vice versa. Two-way joint cheque clearing facilities for Hong Kong dollar cheques between Guangdong Province and Shenzhen and Hong Kong have existed since June 2002. The extension to cover US dollar cheques in Shenzhen helped meet growing needs for foreign currency settlement across the border.

In 2004 around 315,000 cheques, with a value of $27 billion equivalent, were cleared through these joint clearing facilities.

CHART 4 **Cross-border payment linkages daily average turnover**



Debt settlement systems

CMU linkage with Mainland China

On 28 April 2004 the HKMA signed an agreement with the China Government Securities Depository Trust & Clearing Co. Ltd. (CDC) to establish a direct link between the HKMA's Central Moneymarkets Unit (CMU) and the CDC's Government Securities Book-Entry System (GSBS). This is a one-way link from the GSBS to the CMU enabling CDC Members that are authorised to invest in foreign debt securities to settle and hold Hong Kong and foreign debt securities through the CDC's account with the CMU. This linkage greatly improves access for Mainland investors to debt securities outside the Mainland in a safe and cost-effective manner.

Bank Repo service

In December 2004 the CMU launched a new service, the Bank Repo, for member banks. A Bank Repo transaction is a bilateral deal between two CMU Members. This facilitates borrowing by banks from each other by repoing securities that they accept for such repo activities. The CMU acts as the system administrator, providing a safe and fully automated platform for member banks to undertake these repo transactions in the CMU system. As with other CMU transactions, Bank Repo transactions are also processed on a DvP basis.

CMU system improvement

The CMU implemented a major improvement in December 2004 with the introduction of Central Matching. This is an enhanced mechanism facilitating CMU Members in sending their securities transfer instructions to the CMU. Through this mechanism, members enjoy greater flexibility and operational efficiency since their use of communication channels such as SWIFT, CMU User Terminal and fax for this purpose is no longer dictated by the choice of their counterparties.

> Policy Areas > Financial Infrastructure > Infrastructure

Oversight of clearing and settlement systems

The Clearing and Settlement Systems Ordinance (CSSO) became effective on 4 November 2004. The Ordinance helps promote the general safety and efficiency of clearing and settlement systems that are material to the monetary or financial stability of Hong Kong or to the functioning of Hong Kong as an international financial centre. As the overseer of designated systems, the Monetary Authority monitors the compliance of designated systems with the safety and efficiency requirements stipulated in the CSSO and induces changes to designated systems where appropriate to bring them into compliance with the requirements.

The Ordinance also provides statutory backing to the finality of settlement for transactions made through systems designated under the Ordinance by protecting the settlement finality from insolvency laws or any other laws. To this end, the Monetary Authority issues certificates of finality to designated systems meeting certain criteria specified in the Ordinance.

To increase the transparency of the designation and oversight functions of the Monetary Authority, an *Explanatory Note on Designation and Issuance of Certificate of Finality* was issued on 4 November 2004. The *Note* sets out the policies and procedures that the Monetary Authority intends to follow in the designation of clearing and settlement systems and the issuance of certificate of finality under the CSSO. In addition, a statutory *Guideline on the Oversight Framework for Designated Systems under the Clearing and Settlement Systems Ordinance* was gazetted on 26 November 2004 after consultation with the industry. The *Guideline* explains the Monetary Authority's interpretation of the oversight requirements and the process that the Monetary Authority intends to follow in the oversight of designated systems.

By the end of 2004, five clearing and settlement systems had been designated pursuant to the CSSO. The systems are the CMU, Hong Kong dollar CHATS, the CLS System, US dollar CHATS and euro CHATS.

An independent Clearing and Settlement Systems Appeals Tribunal was established under the Ordinance to hear appeals by any party aggrieved by a decision of the Monetary Authority on designation and related matters. The Tribunal is chaired by a judge and it consists of a panel of members who are appointed by the Chief Executive of the Hong Kong SAR.

A Process Review Committee, composed of independent members, was established on 1 December 2004 to review processes and procedures adopted by the Monetary Authority in applying standards set under the CSSO to systems in which the HKMA has a legal or beneficial interest.

> Policy Areas > Financial Infrastructure > Oversight

Debt market development

Gross issuance of Hong Kong dollar debt remained stable in 2004 at $377 billion, down slightly from the previous year. Issuance by local corporations continued to increase, by 66% to $9.1 billion in 2004, while issuance by non-Multilateral Development Bank (MDB) overseas borrowers and authorized institutions (AIs) declined. After a 17% increase in 2003, debt issuance by non-MDB overseas borrowers declined by 11% in 2004 to $76.5 billion, and that by AIs fell by 12% to $53.6 billion over the same period. Within public-sector debt issuance there was an increase in issuance by statutory bodies and government-owned corporations, as well as the launch of the SAR Government bonds.

The value of outstanding Hong Kong dollar debt rose slightly to $608 billion at the end of 2004, as the amount of total gross issuance outstripped maturing securities during the year. Despite the decrease in issuance by non-MDB overseas borrowers in 2004, they remained the largest debtors, accounting for more than one-third of outstanding Hong Kong dollar debt. The amount of outstanding debt issued by AIs continued to fall in 2004, possibly reflecting the ample liquidity in the banking sector and hence little need for external funds.

To promote the development of domestic debt market and to fund infrastructural projects, as well as to provide greater flexibility in managing Government liquidity, the Hong Kong SAR Government launched a landmark $6 billion toll road securitisation bonds in May and completed a $20 billion global bond offering in July. Both issues were well received by local and international investors. The retail portions of both offerings were many times oversubscribed, while the international tranche of the Government bond attracted a total of 147 institutional investors.

The retail bond market was deepened further with the Hong Kong Mortgage Corporation's (HKMC) efforts in pioneering the use of plain language, instead of legalistic language, in retail bond prospectuses. The HKMC's issuance of Asia's first retail mortgage-backed securities also helped promote the development of the mortgage-backed securities market.

The HKMA continued to maintain regular contacts with the Government and market participants to promote the development of the Hong Kong debt market. Recommendations were made to the Securities and Futures Commission (SFC) to simplify the procedures for bond issuance and introduce the "dual prospectus" structure, which was later adopted through legislative amendments and SFC guidelines. The HKMA also worked with the Hong Kong Association of Banks and the Hong Kong Capital Markets Association in designing a facility, operated by the CMU, to facilitate the settlement of Hong Kong dollar repo transactions.

> Policy Areas > Financial Infrastructure > Debt Market Development

Treasury Markets Forum

The Treasury Markets Forum (TMF) was established in March 2004 through reconstituting the previous Foreign Exchange and Money Market Practices Committee. The TMF assumes a broader mandate, focusing not only on foreign exchange and money markets but also on debt and other treasury markets. The objective of the TMF is to achieve better co-ordination and synergy among industry associations and market professionals in raising the professionalism of practitioners and the overall competitiveness of the treasury markets in Hong Kong. The TMF, chaired by Mr Norman Chan, Deputy Chief Executive of the HKMA, has a broad-based representation from various markets, including representatives of the Hong Kong Association of Banks, ACI – The Financial Markets Association of Hong Kong (ACIHK), the Hong Kong Capital Markets Association, the Hong Kong Association of Corporate Treasurers, the DTC Association and the Hong Kong Foreign Exchange and Deposit Brokers' Association.

The TMF has undertaken a number of initiatives during the year to raise the level of professionalism of market practitioners and promote the treasury markets of Hong Kong to the Mainland. The TMF worked with ACIHK to broaden the latter's membership and to develop a set of accreditation and training programmes for market practitioners. The TMF participated in the Hong Kong Financial Services Expo in Shanghai in September 2004 to promote Hong Kong treasury markets. The TMF visited Mainland financial regulators and the China Association of Banks to foster closer links with the Mainland. The TMF and the HKMA jointly organised a seminar on the operation and supervision of treasury markets for Mainland financial regulators in October with an aim to deepen their understanding of the markets in Hong Kong. The TMF also continued to work on a number of market-related issues, such as non-deliverable forward documentation, a review of interest adjustment rate for bulk clearing items, a review of EBS Prime system, and contributions to the CMU regarding the launch of a new facility to facilitate settlement of Hong Kong dollar repo transactions.

The TMF and the HKMA jointly organise a seminar on the operation and supervision of treasury markets for Mainland financial regulators in October 2004.

Exchange Fund Bills and Notes programme

During 2004 the HKMA promoted the liquidity and credibility of the benchmark Hong Kong dollar yield curve by continued re-balancing of the maturity distribution of the Exchange Fund Bills and Notes (EFBN) portfolio, regular review of the performance of market makers, publication of the daily fixings on prices and yields of EFBN, and monitoring of the performance of contributors for the fixings. The HKMA also supported initiatives by market bodies, such as Hong Kong Capital Markets Association, in publicising the EFBN fixings prices through the media.

The one-year pilot scheme to facilitate retail investment in Exchange Fund Notes ended in August 2004. The HKMA reviewed the scheme and introduced certain refinements to improve the features and marketing of the scheme. A total of seven placing banks have been appointed. The scheme will continue to be implemented when market conditions are suitable.

PLANS FOR 2005

Hong Kong's financial infrastructure has made great progress since the Hong Kong dollar RTGS system was introduced in 1996. New systems and linkages have been launched, and continual system refinements have been made to increase payment safety and efficiency. The HKMA is now conducting a comprehensive review of these infrastructural developments with a view to mapping out a coherent strategy and implementation plan to develop a multi-currency multi-dimensional financial infrastructure for Hong Kong.

The review will consider opportunities and challenges, including globalisation of financial markets, increasing integration with Mainland China, the start of the renminbi banking business, and new developments in RTGS and debt securities settlement systems. Our approach is to examine the current usage of systems, to evaluate potential for and impediments to growth, to benchmark with overseas systems, and to identify projects to meet these challenges. The recommendations of the review will be considered by the EFAC Financial Infrastructure Sub-Committee in the first half of 2005.

The HKMA will continue its efforts in ensuring safe and efficient operations of its payment systems and the CMU, and in upgrading systems functionality and promoting their usage. Following the successful experience of the introduction of the CHATS Optimiser, we shall explore ways to further improve liquidity efficiency and ensure that our systems can cope well with increasing IPO activities. We shall also pursue expansion of the existing payment linkages with Mainland China in order to meet the increasing needs of cross-border payment flows.

Under the Clearing and Settlement Systems Ordinance, the Monetary Authority will perform its role as an overseer of designated systems to promote the safety and efficiency of designated systems. This will involve continuing monitoring of the compliance of designated systems with a focus on areas of high risks and with the aim of detecting problems at an early stage.

The HKMA will review the Exchange Fund Bills and Notes programme with a view to attaining a more balanced maturity profile and improving the liquidity towards the longer end. To deepen the retail bond market development, the retail Exchange Fund Notes programme will be re-launched in 2005, with refinements in marketing and product features to increase its attractiveness. The HKMA will take into account the prevailing market conditions in considering the timing for the retail programme.

The Treasury Markets Forum will continue to work with industry associations in promoting professionalism of market practitioners, market development, and promotion of treasury markets of Hong Kong to the Mainland. In particular, plans are underway to organise seminars for Mainland financial institutions and regulators.