

Development of Financial Infrastructure in Hong Kong

by the Monetary Management and Infrastructure Department

One of the HKMA's three key policy objectives is to enhance the efficiency, integrity and development of the financial infrastructure, particularly payment and settlement arrangements. An efficient and robust financial infrastructure is essential to Hong Kong's role as an international financial centre, apart from maintaining currency and banking stability. The HKMA has therefore been building a safe and efficient financial clearing and settlement system in Hong Kong. The long-term aim is for Hong Kong to be a leading centre of financial intermediation, allowing all types of financial transactions, initiated from whatever location, in whatever time zone, in whatever currency, whether at the wholesale or retail level, to be executed and settled in real time. Or, put more briefly, "universal, 24-hour access to multi-currency clearing and settlement services with RTGS, DvP and PvP capabilities". This article outlines the recent endeavors by the HKMA in this direction.

POSITIONING IN THE GLOBAL CONTEXT

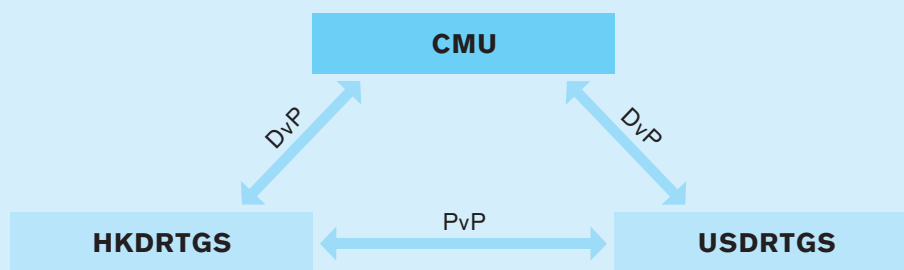
For over a decade the HKMA has been actively developing systems and linkages for financial clearing and settlement. Given the relatively small size of the domestic economy, the HKMA's strategy has been to leverage on its ability and positioning to serve not just Hong Kong but also the Mainland and the rest of the region and beyond. The objective is for Hong Kong to become a financial hub that provides, through its clearing and settlement infrastructure, market access and investment opportunities in a highly robust, efficient and cost-effective manner.

DOMESTIC FINANCIAL INFRASTRUCTURE

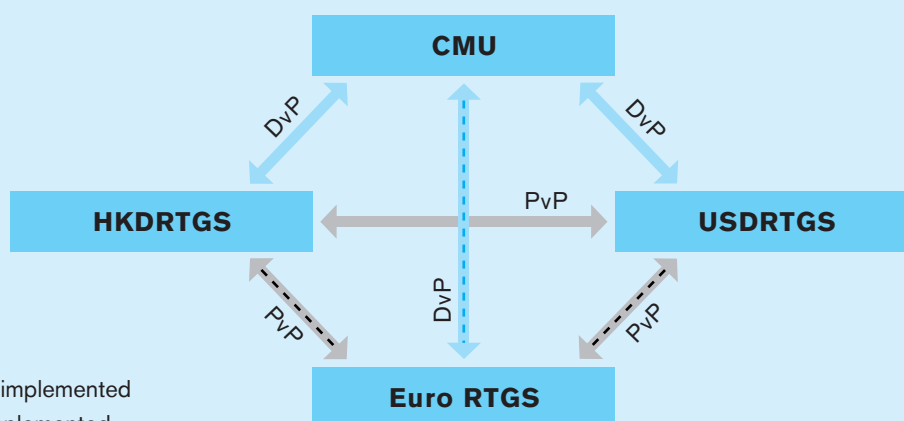
Since 1990, the HKMA has been putting together a sophisticated and advanced financial infrastructure for the clearing and settlement of funds and debt securities (see development history in Appendix). Key achievements include Real Time Gross Settlement (RTGS) payment facilities for the Hong Kong dollar

and US dollar, delivery versus payment (DvP) settlement of securities in the Central Moneymarkets Unit (CMU), and Payment versus Payment (PvP) settlement for US dollar/Hong Kong dollar foreign exchange transactions (Diagram 1). Each of these systems was among the first of its kind to be introduced anywhere in the world. In 1990 the HKMA introduced the CMU as one of the world's first paperless clearing, settlement and custodian systems for debt securities. The Hong Kong dollar RTGS was the fourth RTGS system in the world when implemented in December 1996. The US dollar/Hong Kong dollar PvP, launched in September 2000, was the first electronic PvP facility ever to be implemented in the world.

The CMU, the Hong Kong dollar RTGS system and the US dollar RTGS system together constitute the backbone of Hong Kong's settlement infrastructure. Besides eliminating settlement risk by providing DvP and PvP settlement, the seamless interfaces developed between the three systems also enhance the efficient usage of domestic liquidity through cross-collateralisation, the ability to tap global liquidity and the interoperability of the infrastructure.

Diagram 1 CMU – Hong Kong dollar RTGS – US dollar RTGS Axis

- Providing DvP and PvP
- Facilitating cross-collateralisation
- Enhancing liquidity management efficiency

Diagram 2 Clearing Facilities for Multiple Currencies

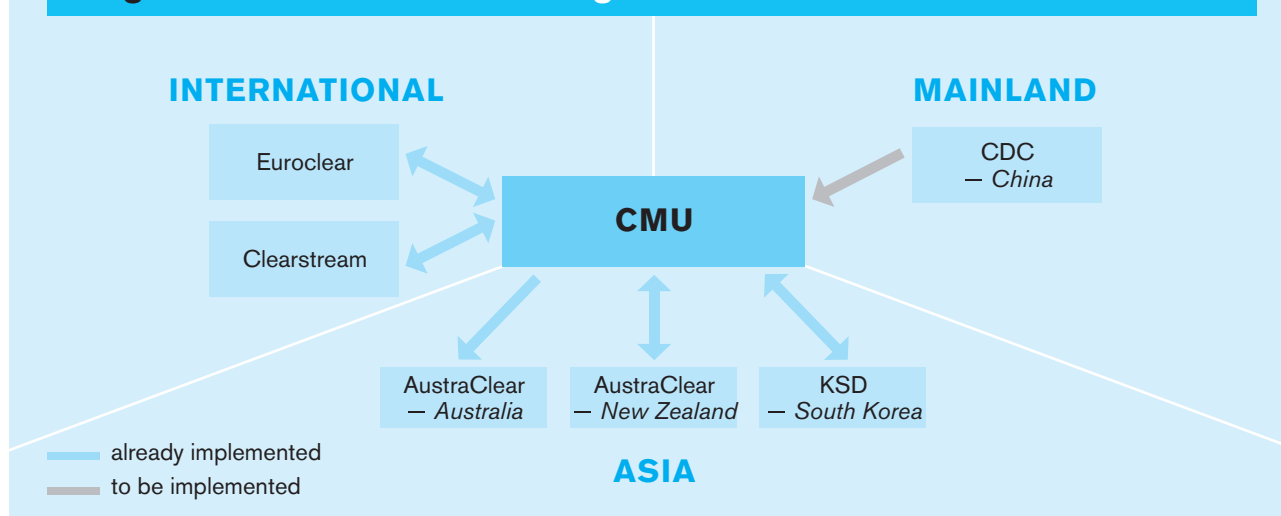
INTERNATIONAL FINANCIAL INFRASTRUCTURE

The US Dollar Clearing System in Hong Kong, with its RTGS, DvP and PvP capabilities, extends the international dimension of Hong Kong's settlement infrastructure. The system enhances Hong Kong's role as a regional clearing centre of multi-currency funds transfer. Over 100 overseas banks are participants in the system.

In July 2002 the HKMA appointed the Standard Chartered Bank (SCB) as the settlement institution

to establish an euro clearing system in Hong Kong. By facilitating interbank payments in euro, DvP for euro denominated securities through a linkage with CMU, and PvP for foreign exchange transactions between the EUR/USD and EUR/HKD, the system will further enhance settlement efficiency and reduce settlement risk in the Asian time zone. The system is to be launched on 28 April 2003. The HKMA is also awaiting opportunities to introduce other currency clearing systems in Hong Kong.

As illustrated in Diagram 2, the three RTGS systems together with the CMU offer a strengthened multi-

Diagram 3 International Linkages of CMU

currency settlement infrastructure. This helps attract cross-border securities investment activities to Hong Kong. As a regional settlement hub, the CMU provides a one-stop shop for clearing, settlement and custodianship for regional investors who have an interest to trade in international securities. Since 1994 the HKMA has been establishing links with several important global debt securities clearing systems, often known as International Central Securities Depositories (ICSDs), such as Euroclear and Clearstream. Members of these ICSDs can hold and settle debt securities lodged with the CMU. The CMU also has links with Austraclear in Australia, Austraclear in New Zealand and the Korean Securities Depository (KSD).

In the last two years, there have been important system developments in the CMU. It is now a modern clearing, settlement, and custodian system for multi-currency debt securities, capable of real-time automated links with ICSDs. A direct link from the CMU to Euroclear was implemented in November 2002. This is the first real-time automated link that a domestic central securities depository has developed with Euroclear. Such a link enables investors in the region to settle and hold Euroclear

securities via the CMU during the Asian time zone in a more efficient manner. Through the interface between the CMU and HKD/USD/EUR clearing systems, Asian investors can settle international securities in a secure DvP environment.

A similar link from the CMU to Clearstream, another ICSD, commenced operation in January 2003. Besides linking with regional and international securities depositories, the CMU has actively brought overseas financial products into its system for clearing, settlement and custodian service. In December 2002, the CMU introduced a new clearing, settlement and custodian service for US Treasuries, the most popular fixed income securities in the world. This service enables DvP settlement for US Treasuries during Hong Kong hours. In addition to providing a better risk management environment, the new service helps create an important pool of regional liquidity and attract US Treasuries trading to Hong Kong.

Another link to be developed in 2003 is that between the Government Securities Book-entry System (GSBS) of China Government Securities Depository Trust & Clearing Co. Ltd. (CDC) to CMU. This is a

facility to enable authorized financial institutions in the Mainland to clear, settle and hold CMU eligible securities. Through the link, Mainland investors will be able to access CMU's secure and robust settlement service, thereby reducing their settlement risk in cross-border debt securities transactions. With the synergy from the new GSBS, Euroclear and Clearstream links, and the new US Treasuries clearing service in Hong Kong, Mainland financial institutions with proper authorization can hold and settle international debt securities through a single window. This will be more cost-effective and efficient.

MAINLAND/HONG KONG CO-OPERATION IN FINANCIAL INFRASTRUCTURE

In addition to the GSBC-CMU link described above, two other developments in financial infrastructure have helped to facilitate payment flows between the Mainland and Hong Kong.

First, with the support of the HKMA, the Guangzhou Branch and the Shenzhen Sub-Branch of the People's Bank of China (PBoC), joint Hong Kong dollar cheque clearing services between Hong Kong and Guangdong were successfully implemented in phases between 1998 and June 2002. Their operation has been very smooth. Hong Kong dollar cheques drawn on banks in Hong Kong and presented in Guangdong, and vice versa, take only two working days to clear, and the service has proved to be popular among the cross-border traders and investors.

Secondly, with a view to expediting cross-border Hong Kong dollar payments between banks in Hong Kong and their Shenzhen counterparts, PBoC Shenzhen and the HKMA have arrived at a scheme for Shenzhen Financial Electronic Settlement Center (SFESC) to develop a Hong Kong dollar RTGS system in Shenzhen. This will be part of the on-going

efforts to develop cross-border financial infrastructure to enhance the co-operation between Hong Kong and Shenzhen. The Hong Kong dollar RTGS link between Hong Kong and Shenzhen began operation in December 2002: through this link banks in Hong Kong and banks in Shenzhen can make Hong Kong dollar RTGS payments to each other.

UNIVERSAL AVAILABILITY OF HONG KONG'S FINANCIAL INFRASTRUCTURE

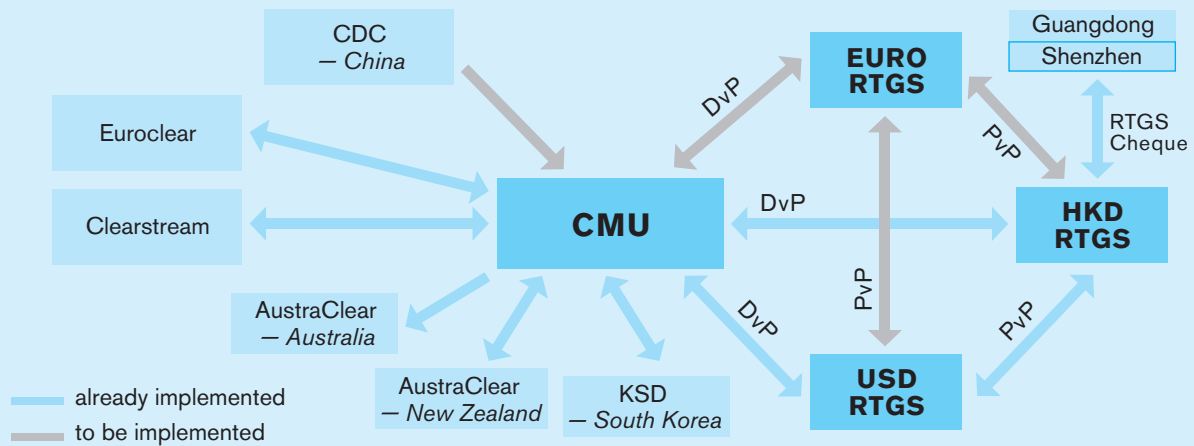
To facilitate Hong Kong's role as a financial hub, Hong Kong's financial clearing and settlement systems must remain open for as many days as possible so as to ensure the largest coverage of our services. With the development of our foreign currency clearing systems, it would be useful for our financial systems to remain also open during Hong Kong holidays when the corresponding currency clearing systems overseas are open. For the markets in the US, Europe, Japan and Mainland China, the only common closed days are 1 January, Saturdays and Sundays. Most of the cross-border systems have very few holidays; for instance, Euroclear has only two holidays every year — 1 January and 25 December. If Hong Kong adheres to this schedule, it will be able to provide round-the-year clearing and settlement services for the US dollar, Hong Kong dollar and euro (and the yen and renminbi in the future), as well as cross-border securities transactions denominated in these currencies. A related issue is that our financial clearing and settlement system, particularly those for large value and cross border transactions, may need to operate during rainstorms and typhoons to avoid transmitting the domestic disruption in Hong Kong to overseas markets. This issue needs to be reviewed in consultation with the financial sector generally and the banking industry in particular.

CONCLUSION

An efficient and robust financial payment and settlement infrastructure is essential to Hong Kong's role as an international financial centre. The intention of the HKMA is to develop Hong Kong into a regional

clearing centre for multi-currency funds settlement and a regional settlement hub for international debt securities. The current configuration of the financial clearing and settlement infrastructure developed by the HKMA is summarised in Diagram 4.

Diagram 4 A Map of Hong Kong's Financial Infrastructure



APPENDIX

DEVELOPMENT HISTORY OF HONG KONG'S FINANCIAL INFRASTRUCTURE

Mar 1990	Establishment of CMU to clear Exchange Fund Bills and Notes
Dec 1993	Extension of the CMU service to other Hong Kong dollar debt securities
Dec 1994	One-way link with Euroclear and Cedel
Dec 1996	Hong Kong dollar RTGS Real-time DvP and end-of-day settlement for Hong Kong dollar debt securities
Dec 1997	Securities Lending Programme Linkage with the CSD in Australia
Jan 1998	Hong Kong dollar joint cheque clearing (one-way) between Hong Kong and Guangdong
Apr 1998	Linkage with the CSD in New Zealand
Aug 1999	Listing of Exchange Fund Notes on Stock Exchange of Hong Kong
Sep 1999	Linkage with the CSD in South Korea
Aug 2000	Introduction of US dollar clearing system
Sep 2000	US dollar/Hong Kong dollar PvP
Dec 2000	US dollar cheque and Real-time DvP settlement for US dollar debt securities
Jun 2002	Hong Kong dollar joint cheque clearing (two-way) between Hong Kong and Guangdong
Nov 2002	Linkage from CMU to Euroclear
Dec 2002	CMU Clearing US Treasuries Hong Kong dollar RTGS link between Hong Kong and Shenzhen
Jan 2003	Linkage from CMU to Clearstream