

IMPLEMENTATION OF THE US DOLLAR CLEARING SYSTEM IN HONG KONG

In December 2000, Hong Kong saw the completion of its state-of-the-art US dollar clearing system. This marked a new era in the development of clearing and settlement infrastructure in Hong Kong. The electronic settlement of a foreign exchange transaction on a payment-versus-payment basis on 25 September 2000, using the new system, was a first in world financial history. This article outlines briefly the history of the project and draws attention to some enhancements that are to be introduced during the course of this year.

Introduction

The purpose of the US dollar clearing system is to facilitate the efficient settlement of US dollar transactions during Asian hours. In March 2000, the HKMA appointed The Hongkong and Shanghai Banking Corporation Limited (HSBC) to be the settlement institution for a franchise period of five years starting from 1 August 2000. Hong Kong Interbank Clearing Limited (HKICL) is the clearing operator for the US dollar clearing system in addition to its responsibility for running the Hong Kong dollar interbank payment system. HKICL also undertook most of the software development work for the US dollar clearing system.

Implementation of the US Dollar Clearing System

The project development and implementation required full co-ordination between the HKMA, the settlement institution HSBC and the clearing system operator HKICL. There was also frequent consultation with the financial community on their business needs and system interface. Building on earlier experience with the Hong Kong dollar clearing system, the HKMA adopted a building block approach and implemented the various modules of the system in three phases. This allowed early implementation of the system and also continual refinement of the system development work.

The first phase, launched on 21 August 2000, implemented a US dollar Real Time Gross Settlement (RTGS) system, the most critical component of the US dollar clearing system, and provided an interface to enable delivery versus payment (DvP) settlement of US dollar

denominated shares traded in Hong Kong. The RTGS system allows local financial institutions to settle US dollar transactions real-time during Hong Kong business hours (0900 to 1730) instead of more than 12 hours later in New York. This new US dollar funds transfer system makes DvP settlement possible for US dollar denominated products traded on Hong Kong's stock and futures markets. It is hoped thereby that these markets will in time attract more local and regional investors and issuers.

The second phase, launched on 25 September 2000, provided for settlement of US dollar/Hong Kong dollar foreign exchange transactions on a payment versus payment (PvP) basis. Hong Kong is the pioneer in implementing real-time PvP and set a ground-breaking record on 25 September 2000 by carrying out the first-ever known electronic foreign exchange PvP transaction. The PvP device ensures that the two legs of a foreign exchange transaction are settled simultaneously. This eliminates Herstatt risk - the settlement risk arising from the two legs of a foreign exchange transaction being settled in different time zones. Without PvP settlement, the seller of Hong Kong dollars would have paid over the Hong Kong dollars and been exposed to a settlement risk until the US dollars were credited to his account in New York around 12 hours later.

The final phase, launched on 18 December 2000, saw the implementation of two components. First, there is an interface between the US dollar RTGS system and the Central Moneymarkets Unit (CMU - the debt securities clearing and custodian system operated by the HKMA). This new interface allows real-time and end-of-day DvP settlement of US dollar denominated debt securities

deposited in the CMU, thereby enhancing settlement efficiency and eliminating settlement risk. This interface also enables the automatic triggering of an intraday repo facility to provide a participant with US dollar liquidity against eligible securities held by that participant in the CMU. With this US dollar RTGS/CMU interface in place, the settlement risk associated with the trading of US dollar denominated debt securities cleared and deposited in the CMU has been eliminated.

The second component is a US dollar cheque clearing mechanism. Customers can open US dollar current accounts with banks in Hong Kong. US dollar cheques drawn on these accounts are settled on the day following presentation of the cheque in Hong Kong. This two-day settlement cycle compares favourably with the settlement period of approximately two weeks for US dollar cheques drawn upon banks in the US and deposited in Hong Kong. It also provides greater convenience to both retail and corporate customers

in making US dollar payments. At present, 68 banks in Hong Kong are ready to offer US dollar chequing accounts to their customers.

Usage of the System

The US dollar clearing system has operated smoothly since implementation of its various phases. By the end of January 2001, there were 62 direct participants and 66 indirect participants. Among the indirect participants, 25 are from overseas.

Turnover has been growing gradually. In the first month of implementation (September 2000), on average over 1,800 US dollar RTGS transactions involving a total of US\$1.8 billion were settled daily. In the fourth quarter of 2000, the daily RTGS turnover increased to around 2,100 to 2,400 transactions, with total value at over US\$3 billion daily. The peak turnover was US\$6 bn recorded on 20 February 2001. In terms of volume, the

Box A

Modifications to be Introduced to the US Dollar Clearing System in 2001

- 1) Given the trend for banks to move towards straight-through processing of foreign exchange transactions, it is desirable to minimise manual intervention in transaction processing. It will therefore no longer be obligatory to complete the transaction matching field, i.e. the PvP deal code. The counterparties of a transaction may decide to leave the deal code blank unless agreed otherwise.
- 2) In order to improve liquidity management by the counterparties, the holding of funds for settlement will in future take place only after the matching of a PvP transaction. In addition, transactions can be entered one business day before the settlement day for pre-matching to help improve throughput on the settlement day.
- 3) To facilitate more efficient management of funding for matched transactions, when one counterparty earmarks funds for a matched transaction, such funds will be held in that bank's own settlement account instead of the account of the Settlement Institution. The duration of the holding of funds will be decided by the paying bank, i.e. the current 90-minute time-out limit will no longer apply. If the bank does not wish to wait for the funds to arrive from its counterparty, it may release the hold. However, the transaction will remain in the system during that settlement day and the bank can recall and resubmit it for matching again.
- 4) Banks will be able to input beneficiary account information in the PvP transaction to facilitate straight-through processing of payment to customers.

peak was 3,388 transactions on 27 December 2000. Out of the 2,000 or so RTGS transactions a day, typically some 20 to 30 were the US dollar leg of PvP transactions to a combined value of around US\$0.8 to US\$1.8 bn.

With PvP settlement and the consequent elimination of Herstatt risk, the application of bilateral counterparty trading limits may assume less importance, and interbank liquidity may therefore improve as the traded currencies are put to immediate use in the respective clearing systems. This may enable small and medium size banks, in particular, to participate more actively in the foreign exchange market.

Future Enhancements

In the light of experience thus far with the PvP arrangements, and after consultation with the users of the system, it has been agreed that certain modifications should be introduced in order to make the system more user-friendly and efficient. The major modifications are outlined in Box A.

A schema of the operation flow of the new PvP design is shown in Appendix A. Although the enhancement involves significant changes to the design of the PvP device, the alterations should be completed for live use by the third quarter of 2001.

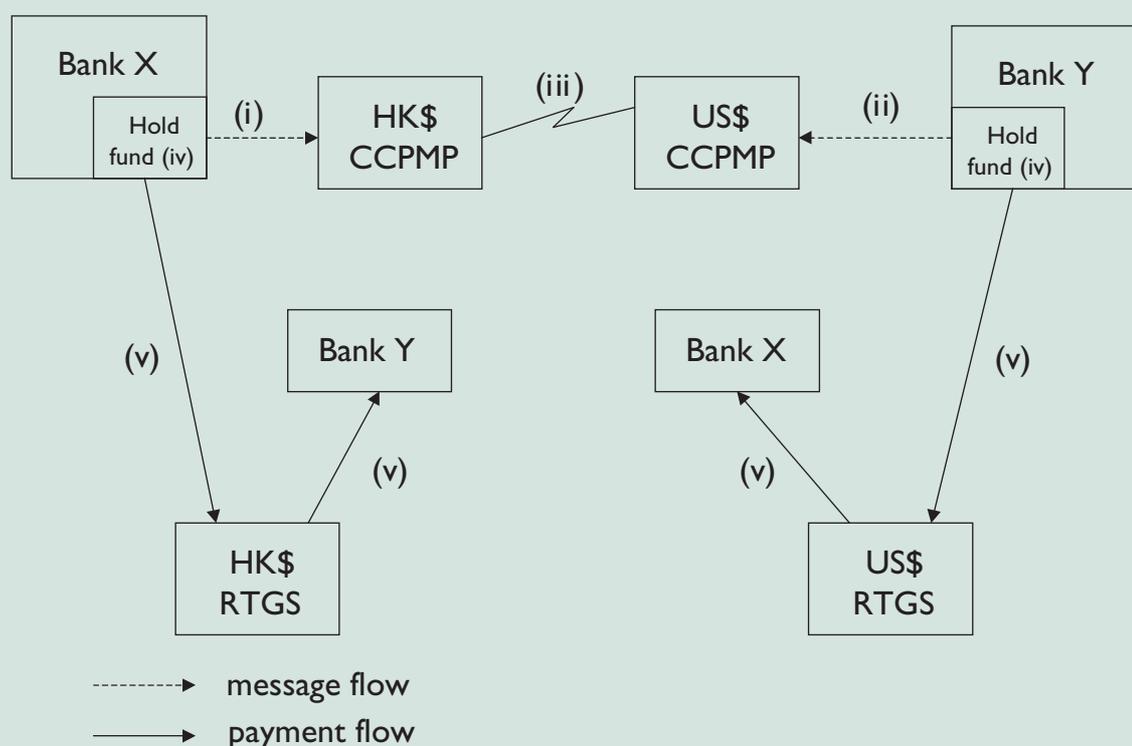
Access to the US dollar Clearing System

We believe that the elimination of Herstatt risk through our US dollar clearing system is a benefit which should be of interest to the central banks and financial communities in the region. Access to the system is therefore open to both local and overseas financial institutions. We have seen increasing interest from overseas banks in becoming direct or indirect members of the US dollar clearing system. We shall continue our efforts to promote usage of the system and to encourage more US dollar denominated products to be issued and cleared in the region. 

- Prepared by the Monetary Policy and Markets Department

OPERATION FLOW OF PVP SETTLEMENT

(TO BE INTRODUCED IN THE 3RD QUARTER OF 2001)



- i) Two banks (Bank X and Bank Y) have agreed to settle a US dollar/Hong Kong dollar forex deal by PVP. On settlement day (or up to one business day before settlement day), the seller of Hong Kong dollars (Bank X) sends a PVP payment transaction to Bank Y.
- ii) The seller of the US dollars i.e. Bank Y, also initiates a mirror PVP payment transaction.
- iii) The Cross Currency Payment Matching Processor (CCPMP) for Hong Kong dollars and the CCPMP for US dollars will then communicate with each other and attempt matching of transaction.
- iv) After successful matching, the Hong Kong dollar RTGS system and US dollar RTGS system will respectively hold the Hong Kong dollar funding of Bank X and the US dollar funding of Bank Y.
- v) If both Bank X and Bank Y have sufficient funds, the two RTGS systems will transfer the funds to their respective counterparty simultaneously.
- vi) If only one bank has sufficient funding (say Bank X), the Hong Kong dollar funding of Bank X will be put on hold in its own settlement account. During the settlement day, if Bank X does not wish to wait any longer for matching funds to arrive from Bank Y, it can release the hold. However, the transaction will remain in the system during that settlement day and Bank X can recall and resubmit it for matching again. 🌀