

The HKMA, in co-operation with the private banks, is prudently building on existing systems to develop a Real Time Gross Settlement (RTGS) system which will comply fully with international standards. It is hoped that bilateral links with other RTGS payment systems can then be developed. The Central Moneymarkets Unit service will soon offer end-of-day delivery versus payment for private sector debt securities and accept non-HK dollar denominated debt securities.

Introduction

I am pleased to have this opportunity to present our views on Hong Kong's payment system within the global payments network. Given the time constraint, I do not propose to go into the technical details of our existing payment system in Hong Kong and the proposed Real Time Gross Settlement (RTGS) project. These have been adequately covered in a recently published article.¹ I would like to take the opportunity instead to share with you our views on a number of issues which have been important in shaping the RTGS system that we are trying to build. I would also like to share with you our views on how our system could feature in the global payments network.

The Hong Kong RTGS System

Hong Kong was a late starter in the reform of the interbank payment system. We currently still clear and settle our cheques and inter-bank payments on a net basis the next day. The US Fedwire system has been processing payments on RTGS basis since 1968 – for some transactions many years earlier. The Swiss payment system, SIC, went on RTGS in 1987. We did not begin looking at our interbank payment system until 1993. With rapid changes in both regional and national payment systems worldwide, following the important studies made by the G-10 Committee on Payment Systems and by the European Union central banks on payment system standards, it was abundantly clear that we in Hong Kong must try and upgrade our system to meet these international standards and do it quickly.

Being a late starter does carry one advantage: we are able to learn from other people's experience,

good or bad. In this connection, I would like to express our sincere gratitude to fellow central bankers who have been most helpful to us by giving us invaluable advice and sharing with us their experience. In particular, I would like to thank Peter Allsopp from the Bank of England, Israel Sendrovic of the New York Fed and Christian Vital of the Swiss National Bank for all their help and assistance.

In the design and implementation of our new RTGS system – by no means a simple project – we have set for ourselves a few key guiding principles, which can be summed up as *confidence, credibility and consensus*.

Confidence – full compliance with international standards

First of all, confidence. Not many serious and prudent players want to carry out financial transactions in a financial system that does not command their full confidence, in particular, confidence in the efficiency, integrity and robustness of the payment system. Confidence on an international level – for after all we are keen to maintain Hong Kong's status as an international financial centre – requires full compliance with international standards. This view immediately settled two fundamental questions for us: the adoption of RTGS as the basis of our new system, and the settlement across the books of the HKMA to enable settlements to be unconditional, final and irrevocable. The adoption of RTGS will immediately eliminate most of the legal risks associated with bilateral or multi-lateral netting. Settlement across the books of the HKMA will eliminate any doubt over credit risks associated with commercial banks acting as settlement institutions, however prudently these commercial banks are run. Once this was

* This is the text of a speech by Joseph Yam, CBE, Chief Executive of the HKMA to the Seminar on Global Payment Systems on 3 November 1995.
1 "Hong Kong's Payment System" in the August 1995 issue of the *Quarterly Bulletin*.

decided, a single tier architecture, instead of the present three tier one, with every bank settling directly across the books of the HKMA, made the design both simple and efficient.

An associated issue of importance if the payment system is to command the full confidence of market participants concerns the management of credit risks arising from daylight overdrafts. Our plan is to tackle that issue by integrating our book-entry securities system – what we call the Central Moneymarkets Unit (CMU) service – directly with the RTGS payments flow mechanism. Any daylight overdraft incurred by a bank at its clearing account with the HKMA will be fully collateralised with Exchange Fund paper on a repo (sell and buy-back) basis. As far as I know, our RTGS system is one of the first to be engineered with a seamless integration between the settlement function and the government securities book entry function. We will be happy to share our technical specifications on this and other features with other central banks.

Credibility – evolution, not revolution

The second guiding principle, as I mentioned earlier, is system credibility. In implementing any technical reform which has system wide implications, such as the interbank payment system, technology itself cannot be taken for granted. Although we could have bought new and advanced technology from the international market, lock, stock and barrel, we decided to adopt an evolutionary approach by prudently building on the existing large value fund transfer system called CHATS, which has many years of proven record. A brand new system would cost probably twice as much and it would also require at least 18 months longer to implement. The banks in Hong Kong are familiar with CHATS procedures and the settling in period would be considerably shorter than putting in a new system with technology untried in the Hong Kong environment and brand new procedures. The larger banks can interface their own complex systems with RTGS through the tested IBM AS400 machine, while the smaller banks can access RTGS through PC terminals. In other words, our new system will have the credibility of the existing CHATS behind it and will be quite user friendly.

Further to ensuring system credibility, we have the most challenging task to try and ensure that the new system will not fail. We have thus

planned a very thorough testing process, before going live on RTGS, with the assistance of an international firm of consultants with strong international and domestic experience. Such testing is both labour intensive and expensive, but there is, I am afraid, no short cut if we are to build an absolutely robust payment system for Hong Kong.

Consensus – full co-operation between the public and private sectors

The third guiding principle is consensus. A project as complex as this one could not be designed and so far implemented smoothly without the full co-operation of the banking industry, which after all is the main user of the payment system. We have in Hong Kong a large and rather heterogeneous population of over 180 licensed banks, operating within a rather complex three-tier clearing structure comprising the Management Bank of the Clearing House, a number of Settlement Banks and an equal number of catchments of Sub-settlement Banks of varying size. But their interests are well represented by the Committee of the Hong Kong Association of Banks (HKAB). Through HKAB, we consulted the banking industry at each and every critical stage of our study and decision making process. I personally also chair a Committee on Payment System involving many top bankers to give a policy steer to the RTGS project. It is a reflection of the co-operative spirit in this consensus approach that the RTGS project is now being implemented by a joint venture company, called Hong Kong Inter-bank Clearing Limited, with 50:50 ownership by the HKMA and HKAB.

Let me place on record our appreciation of the valuable contribution of the project team, including the Management Bank of the Clearing House, the Hongkong Bank, as the owner of CHATS and all other members of the Hong Kong banking community, for making this important project proceed thus far so smoothly and on schedule. We aim to have full implementation of the project by the end of 1996, which will be less than 24 months after the endorsement of the feasibility study. This is an ambitious target by any standards, but we have little alternative. We cannot afford to lag behind others in this important area of market infrastructure if Hong Kong is to maintain its competitiveness as an international financial centre.

Beyond RTGS – Cross Border Linkages

I am confident that these guiding principles will ensure smooth completion of this important project on schedule. But this is not the end of the matter. We need to look beyond RTGS as we look beyond 1997.

Don't take me wrong. The targetted completion of the project before 1997 has nothing to do with the transfer of sovereignty. The year 1997 features prominently in this context because two important events that have great relevance to Hong Kong in the payment system area will occur. The Federal Reserve Board has already announced that in 1997, the operating hours of Fedwire will be extended to 18 hours. This is the first event. Conceptually and technically a bilateral link between the RTGS payment systems of two currencies should not be too difficult to design and achieve. This will enable cross currency transactions to be settled via a payment versus payment (PvP) basis and will help eliminate Herstatt risk, which is biggest for the East Asian time zone in view of the longer time gap with New York. It will also strengthen trade and capital flows between the two economies, particularly when one currency is linked to the other as a monetary policy objective. We certainly hope that a direct linkage can be achieved between our RTGS system for the HK dollar and Fedwire for the US dollar. We will continue to pursue the idea with our colleagues from the New York Fed.

The second event is the targetted completion in 1997 of the China National Automated Payment Systems (CNAPS) for the RMB, which is also designed on a RTGS basis. I have little doubt that the RMB will in time, along with the US dollar, become one of the two most important foreign currencies for Hong Kong, particularly after it attains freely convertible status. The mainland and the US are, after all, our largest trading partners. We have, therefore, in consultation with the People's Bank of China, taken the strategic decision to work towards linking our RTGS with the CNAPS system.

We have looked beyond RTGS and have initiated discussions leading to linkages of RTGS

systems on a bilateral basis for a number of reasons. First, a robust network of **global** cross-border payments can only be built on robust **domestic** payment systems. Robust RTGS systems form the basic building blocks of the global network.

Secondly, once the foundations have been laid, the inter-connection between payment systems should be built **bi-laterally** instead of multi-laterally. We fully understand and appreciate that the European Union, with their intention to build a single currency, would be keen to link the European payment systems together first on a multi-lateral basis. Similarly, other G-10 payment systems have internal interests to cater for, thus restraining the capacity to "internationalise or harmonise" the global payment network. There are many legal and structural constraints to multi-lateral system linkages. It may take a long time for these to be resolved to the satisfaction of all. On the other hand, it is in two economies' own direct interests to build a bilateral linkage with each other, and this could be achieved with much greater ease.

Thirdly, PvP linkages can be achieved either indirectly via private sector banks, or directly with linkages of two RTGS systems together. Mr Bruce Summers,² Senior Vice President of the Richmond Fed, has recently proposed what we think is a most practical and feasible way of linkage through a payment-matching mechanism at the "good offices" of central banks. He said that "In essence, each central bank involved would escrow payments originated by users of the service and release the payments only when a well-defined condition is met for each." This mechanism would eliminate Herstatt risk without exposing central banks to new credit risks and the global payment system to commercial bank risks.

Fourthly, in a world of cross-border payments, domestic payments are only one leg of an international transaction. In Hong Kong, daily inter-bank HK dollar transactions are already in the order of US\$15 bn, but foreign exchange transactions are in the order of US\$91 bn daily. This goes to show that payment systems must be robust and efficient both domestically and internationally.

2 Bruce J Summers, "Remarks for a Panel Discussion on International Settlement Issues", National Payments System, Bank Administration Institute Foundation, Washington DC, 16 October 1995.

Fifthly, the bulk of the cross-border flows through Hong Kong so far is between Hong Kong, Europe and America, reflecting the traditional pattern of trade, and the dominance of the US dollar in international transactions. However, there have been greater and greater intra-Asian trade and investment flows, such that efficient and robust Asian payment systems must exist to facilitate this growth. Between 1990 and 1994, the number of SWIFT messages recording financial flows around the world increased by 9.1%, but total messages for the Asia-Pacific Region has been growing nearly 50% faster at an average annual rate of 14.6%. As the value and volume grow, there is no alternative to the reduction of payment system risks except through direct linkages between RTGS payment systems of different currencies.

Thus, we consider the building of direct linkages between RTGS based payment systems in this region and internationally as essential, in order to support the rapid growth of trade and capital flows around the world. The HKMA would be pleased to discuss with other central banks should they be interested in establishing bilateral PvP links with Hong Kong.

Enhancements to CMU Service

Before closing, I would like to take this opportunity to announce two enhancement measures to our CMU Service which will be implemented very shortly. The first enhancement is that as from December 1995, the CMU Service will be able to offer end-of-day delivery versus payment (DvP) facility for private sector debt securities lodged and cleared with the CMU. This should help reduce settlement risk in the trading of these securities. Of course, the DvP function, both real time and end-of-day, will be available to all CMU instruments, including the Exchange Fund Bills and

Notes and private sector debt securities, when our system goes live on RTGS by the end of next year.

The second enhancement is that, as from January 1996, the CMU will accept non-HK dollar denominated debt securities. So far the CMU only accepts HK dollar debt securities because the CMU Service is designed and set up to promote the HK dollar debt market. However, there is no reason why the CMU, which is already linked up with EuroClear and Cedel, cannot widen its coverage to debt securities denominated in foreign currencies. Following consultations with market participants, we have decided that the CMU Service should widen its coverage to cater for market demand for the clearing of foreign currency debt securities.

These two enhancements to the CMU, together with the launching of the 7-year Exchange Fund Notes later this month as announced by the Financial Secretary yesterday, are part and parcel of the HKMA's on-going efforts to upgrade the market infrastructure. I am acutely conscious of the fact that the financial markets are becoming increasingly globalised and fiercely competitive. There is no scope for complacency. Financial business and transactions will flow to and gravitate in those centres which offer the best service and the least risk.

Closing Remarks

Finally, as host of this seminar, I would like to thank all of you for attending. Your presentations and discussions will, I am sure, be most helpful towards the building of robust domestic payment systems, and the cross border linkages of such systems to form a global payment system that is equally robust. I wish all of you a pleasant and enjoyable stay in Hong Kong. Thank you. ☺