

## **Enhancing domestic and cross-border payment system arrangements to cope with the liberalisation and globalisation of financial markets: experience in Singapore**

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### **Introduction**

As financial markets develop, the volume and value of funds transfers between market participants have increased considerably. The globalisation of markets and increased linkages between national financial systems have also made the integrity of cross-border funds transfer systems increasingly important. As one of the major financial centres in Asia, these are important considerations in the design and implementation of payment systems in Singapore.

### **Overview of payment systems in Singapore**

Allow me to first give you a brief overview of the existing payment systems in Singapore. Singapore's payment systems can be grouped into three broad categories:

- firstly, payments between banks and the Monetary Authority of Singapore (MAS). These payments are effected directly by MAS through the debiting or crediting of the respective banks' accounts maintained with MAS;
- secondly, interbank payments which are effected electronically through the System for Handling Interbank Funds Transfers, or SHIFT. These payments are settled on a net basis at the end of the day via the banks' current accounts maintained with MAS; and
- lastly, retail payments between customers of different banks which are effected through cheques, the interbank GIRO, ATMs and EFTPOS.

Large-value Singapore dollar interbank payments are made through SHIFT, which was implemented in 1985. SHIFT is operated by the Singapore Clearing House Association, or SCHA, of which all banks are members. The SCHA has in turn appointed a private company called Banking Computer Services (BCS) to run the system. SHIFT is an end-of-day net settlement system. Under the system, the records of all banks' net receipts or payments are transmitted to MAS at the end of each day for settlement between the banks' accounts with MAS. Transaction values in SHIFT have increased by about 18% annually since its launch in 1985. It now settles about S\$ 37 billion of transactions per day.

As for retail payment systems in Singapore, their development has been largely driven by commercial considerations of banks. Given the tight labour market situation in Singapore, banks had to introduce more efficient and less labour-intensive payment systems to reduce cash and cheque handling. The Government is also a major driving force. Many government departments have been encouraging the use of cashless methods such as the interbank GIRO for the payment of public utility and other government services. Singapore's ATM network has evolved from providing basic cash-dispensing and balance enquiry functions to include such services as electronic share application and funds transfers between accounts. EFTPOS is also now widely used in major department stores and many retail outlets. The most recent development in retail payment systems was the introduction of a nationwide stored-value card or cashcard, which employs smart card technology. The cashcard will provide the framework for the introduction of an electronic road pricing system on Singapore roads sometime next year. It is hoped that the cashcard will also be used at pay phones and in car parks, the subway, buses and taxis.

### **Implementation of a real-time gross settlement system**

The growth in interbank payments handled by SHIFT has necessitated a review of Singapore's interbank payment system in order to reduce settlement and credit risks. MAS has therefore embarked on the development of a real-time gross settlement system to replace SHIFT. The RTGS project is already at an advanced stage and if all goes well it should be rolled out in the first half of 1998.

In considering the design of the RTGS system, a number of issues had to be decided on. In contrast to the SHIFT system which is operated by the private sector, the RTGS system will be operated by MAS. This appears to be the more widely adopted practice elsewhere. As banks maintain current accounts with MAS to meet their statutory reserve requirements, it is more logical for MAS to also operate the RTGS system to facilitate real-time settlement of payment instructions. The RTGS system will also provide the framework for the introduction of a delivery-versus-payment system for the settlement of transactions in Singapore government securities.

Introducing major changes to existing systems which have worked well is always difficult. We have to convince banks of the benefits of an RTGS system over the end-of-day net settlement system. Such benefits are often not obvious, especially when there has been no experience of default under the existing system. However, we have to be more forward-looking and consider the potential benefits with the possibility of linkages between RTGS systems across national boundaries for cross-border payments. Of course, the introduction of RTGS would necessitate a major change in the way banks manage their intraday liquidity positions. Staff have to be retrained to implement more rigorous liquidity management systems.

### **Cross-border payments**

So far, we have only considered ways to strengthen our domestic payment systems. There have been few, if any, attempts to develop linkages with other national payment systems. With increased cross-border financial flows, such linkages will be a major undertaking to reduce settlement risks between banks across different time zones. Singapore is now a major foreign exchange trading centre in Asia from which many international banks undertake global trading activities. Driven by their own need to reduce risks, some banks have entered into bilateral or multilateral netting arrangements with their counterparties. However, such arrangements are based on the banks' own commercial considerations. Banks are not expected to, and indeed it is not their responsibility to, ensure the overall integrity of the global payment systems. This responsibility rests with the

central banks. In this regard, major issues have to be addressed. For example:

- individual countries are at different stages of development in their domestic payment systems. How would this affect the integrity of the linkages between those systems? Should there be operational benchmarks or minimum standards for payment systems that wish to be linked?
- what would be the impact of payment system linkages on monetary policy as liquidity intended for a particular banking system could easily flow to another banking system?
- who should provide the technical connection between national payment systems and how should this be regulated to ensure its reliability?
- should central banks encourage or even mandate the use of netting arrangements by banks to reduce foreign exchange settlement risks? Do the different legal systems support such netting arrangements?

These are difficult issues and the list is by no means exhaustive. We do not have all the answers, but one thing is certain – the challenges facing central banks in managing payment systems in an increasingly globalised financial environment are formidable.