

Malaysia's experience in modernising payment systems to increase efficiency and reduce risks

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Payment systems are undergoing a revolution, be it in the East or West. Paper, which has dominated for the past 50 years or so, is giving way to new media in this electronic age. The advent of the microchip, I believe, is set to transform the payments field. Given these dramatic changes, this conference is a good opportunity for us, central bankers and regulators, to share our experiences and concerns as well as to establish and strengthen personal contacts.

Before I embark on the main part of my presentation, I will provide you with some background to Malaysia's systems as an aid to understanding. I will therefore begin with an overview of the existing payment system and of new systems in the pipeline. I will then outline the objectives of reforming the systems, describe to you in some detail several constraints which we face and conclude with some of the policy directions which we are pursuing.

Introduction

Most of the necessary payments infrastructure is already in place and is not unlike that in other countries. The central bank (Bank Negara Malaysia) owns and operates the high-value payment system, SPEEDS (an acronym in Bahasa Malaysia for Sistem Pemindahan Elektronik untuk Dana dan Sekuriti), which is an electronic interbank funds transfer network. The system also provides electronic book-entry settlement for dematerialised securities consisting of government paper, the central bank's securities and selected private debt instruments. SPEEDS, however, is an end-of-day net settlement system that settles across the books of the central bank.

The central bank also owns and operates automated clearing houses for the processing and clearing of cheques in the capital, Kuala Lumpur,

and in Pulau Pinang and Johor Bahru. In the remaining major towns, cheque clearing is performed manually by either the central bank branches, where these exist, or the commercial banks.

International payments are effected primarily through S.W.I.F.T., and to a lesser extent by telex.

A nationwide shared automated teller machine (ATM) network is also in place to offer bank customers the convenience of utilising any machine for their ATM transactions. Settlement of the transactions takes place the next working day through accounts maintained with the settlement banks.

In addition to the nationwide credit card authorisation network (for VISA and MasterCard), EFTPOS and EDI networks are also available. In recent years, there have been various initiatives by banking and non-banking institutions to introduce electronic money products, that is, single-purpose stored-value or prepaid cards for payment of highway tolls, use of public telephones and electricity consumption, in the last case to date on a limited regional basis.

Having enumerated what is available, I would now like to touch on what is being planned for the future. First, we intend to introduce a Real-Time Gross Settlement (RTGS) system for large-value interbank funds transfers and dematerialised securities. It is scheduled for launch in January 1999.

The recently implemented image-based automated cheque clearing system, SPICK (an acronym in Bahasa Malaysia for Sistem Penjelasan Imej Cek Kebangsaan), will be extended to Pulau Pinang and Johor Bahru in 1998, to the remaining clearing centres of Kuching and Kota Kinabalu by 1999 and to Kuala Terengganu by the year 2000.

Plans are also under way for the issuance of a multipurpose smart card (MPC) to all Malaysians. As this would probably be the first of its kind in the world, I would like to dwell a little on this planned new MPC. Bank Negara Malaysia has been chosen by the Malaysian Government as the lead agency to develop and prepare a detailed implementation plan for the issuance of the MPC, which will contain key government, payment and other private sector applications. The MPC will be a plastic card with embedded microprocessor chip that has the capability to perform a wide range of functions, including data processing, storage and file management.

Three types of card structure will be accommodated in the initial development of the MPC platform:

- (i) the Government Multipurpose Card (Government MPC), which will combine the national ID, driving licence, medical and immigration applications and optional e-cash. The national ID will be the anchor application of the Government MPC. Other government applications are to be activated at a later date;
- (ii) the Payment Multipurpose Card (Payment MPC), which will accommodate international credit, debit, ATM and e-cash applications. The combination of financial applications, however, will be at the discretion of individual financial institutions and their customers. Payment MPCs will be individually issued and branded by the issuing banks; and
- (iii) a disposable e-cash card, which will be issued by the Payment Consortium, a settlement and clearing agency approved by the central bank. The e-cash applications and infrastructure will be compatible with a disposable e-cash card.

The MPC will be tested on a pilot basis in 1998 and is targeted for full commercial release before the year 2000.

This summarises the payment systems environment in Malaysia.

Objectives in reforming payment systems

Having provided an overview of the payment systems in Malaysia, I should mention briefly our objectives in seeking to enhance our systems.

Financial markets, as you know, are becoming increasingly globalised and fiercely competitive. The rapidly evolving technology and regulatory changes are constantly changing the face of payment systems. A further factor is the convenience of services and related security demands of customers. We cannot afford to lag behind or slacken if we intend to maintain our competitiveness and attractiveness as a regional financial centre.

Accordingly, as the regulatory body, we are driven by the need to improve the quality of our banking system to meet the pressures for change. This encompasses not only the elimination of risks, but also issues of security, technology, obsolescence of systems and privacy of customers. To instil greater public confidence in electronics-based payment mechanisms, it is also necessary to ensure that the legal and regulatory framework is "in sync" with payment system developments.

Hence, changes in the rules are needed to reflect developments in the market environment.

Challenges faced in modernising payment systems

Let me now describe to you some of the major challenges we face in modernising our payment systems.

Infrastructure

The first issue that springs to mind is infrastructure. The traditional telephone network was not designed for data communication, much less the speeds at which modems are pushing data these days. An alternative is to upgrade to fibre optics and high bandwidth, but these are too costly to implement. Further, there is no guarantee of newer technologies emerging over time. The current public telecommunications technology also limits the efficiency of internet access and wide area networking. The dial-up analogue modem technology is too slow. As for dedicated lines, though digital and fast, they are too expensive for many small and medium-sized businesses.

Legal framework

The second issue that posed a challenge was the legal framework, which is inadequate or of uncertain applicability for the purpose of governing the existing systems and new systems to be introduced. For example, the existing “rules” for SPEEDS (the high-value payment system) are deemed to be merely procedural and lack legal force, with no penalties being imposed for contravention or abuse of the system. There is also little or no protection for aggrieved parties. Similarly, the law is found to be lacking in the area of consumer protection for retail transactions, particularly those involving ATMs and EFTPOS. Ideally, we should construct a framework which supports rapid changes in both technology and market requirements.

Public acceptance

Thirdly, there is the issue of public acceptance of new systems. Old

habits die hard and, accordingly, some segments of our society are reluctant to give up paper for electronic systems. The fact that some payment systems have a history of perceived security weakness does not help either. A further point of contention is anonymity. Supporters argue that cash is anonymous and, therefore, electronic payment systems used for cash-like transactions should also be anonymous. Regulators will then have to come to grips with the question of money laundering. There is also the preference of some citizens to deal in an all-cash environment because of the opportunity to under-report income to the tax authorities.

In Malaysia, where the majority of the population is Muslim, the payment system should also be able to support Islamic banking and financial principles. This would go a long way towards ensuring acceptance of the system by the general user community.

The issues raised here are by no means exhaustive. There are also other equally daunting challenges such as harmonisation of technical standards and protocols, linkages between the various payment and settlement systems, open access to the systems, capacity restrictions and questions of security, etc., the details of which are still to be worked out.

How, then, have we responded to some of these challenges?

Policy directions being pursued

Several practical measures have been instituted. First, the Bank is considering a **legal framework** for electronic banking, particularly in the area of consumer protection for retail transfers (ATM, EFTOS, etc.) and legal certainty for large-value transfers effected through the SPEEDS system. The objective of this legal framework is to provide legal force for electronic funds transfers as well as a balance between the rights and obligations of the bank and its customers and other banks.

As it is, Section 119 of the Malaysian Banking and Financial Institutions Act 1989 (BAFIA) already stipulates that prior approval from Bank Negara Malaysia is required to operate any electronic funds transfer system, which includes the issuance of prepaid cards and stored-value cards. This section is being expanded to deal with the new developments in electronic money. The Bank has also drawn up a set of regulations governing operations using electronic money in Malaysia.

Secondly, an **RTGS** system for large-value payments will be launched in January 1999. This will reduce the risks associated with large-value payment systems and promote financial stability.

Thirdly, Telekom Malaysia Berhad earlier this year introduced its **Corporate Information Superhighway (COINS)** – an asynchronous transfer mode network catering for corporate needs. The system is a globally connected nationwide broadband communication network that will meet the need for more transmission capacity and supports multimedia applications, network computing and electronic communication. The system will be expanded in 1998 to extend its coverage of subscribers and make transmission faster. The system's nodes will be increased to 50 from 38 at present, and the transmission speed to 10 gigabytes from the current 155 megabits per second.

Conclusion

To conclude, may I say that the payment challenges are many, but they are not ones from which we can shrink.