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The Payment and Settlement Systems



The Payment and Settlement Systems

MANAGEMENT OF THE PAYMENT SYSTEM

In promoting an efficient, reliable and secure payment system that will contribute to financial stability and the effective functioning of financial markets, the key policy thrust during 2005 remained on enhancing safety and reducing risks in the payment system as well as enhancing the use of electronic payments. In this regard, the Bank continued its efforts in the development and improvement of the country's major payment system infrastructure, ensuring their robustness and the effective mitigation of systemic risks in the payment system.

The key policy thrust during 2005 remained on enhancing safety and reducing risks in the payment system as well as enhancing the use of electronic payments.

During the year, live runs were conducted with the banking industry to ensure the robustness of the payment systems operated by the Bank, as well as its business continuity plans. In pre-empting systemic risk in interbank foreign exchange settlements, the Bank had also commenced work to build a 'payment versus payment' mechanism.

In the area of retail payment systems and instruments, the Bank's focus has been to ensure sustained public confidence in their use to facilitate the effective functioning of commerce. The Bank continued therefore to play its role as a catalyst in the development of the retail payment infrastructure and facilitating industry wide collaborative efforts to strengthen payment security standards. The Bank facilitated the full migration of the country's credit card infrastructure to Europay-MasterCard-Visa (EMV) chip standard with the completion of the conversion to EMV-compliant terminals during the year. Consequently, Malaysia becomes the first country in the Asia Pacific region to fully migrate to the chip environment, boosting the confidence of consumers, tourists and merchants in the use of payment cards in the country.

In ensuring the safety and confidence in Internet banking transactions provided by the banking

institutions, additional security measures are being implemented to combat online fraud, including identity theft. To pre-empt the threat of money laundering and terrorism financing activities conducted via the payment system, measures to promote the use of formal remittance channels will be introduced to deter the use of informal payment systems. As such, qualified non-banking institutions would be allowed to offer remittance services while banking institutions may appoint collecting agents to facilitate their remittance transactions.

The second focus area was on enhancing competition and improving payment efficiency. Consistent with the Financial Sector Masterplan to increase competition and efficiency in the payment system, the policies that only allow banks to offer retail payment services were liberalised. The payment landscape continues to evolve with the banking and non-banking institutions introducing new payment services that leverages on modern technology such as the Internet, smart cards and mobile phones. While these developments promote competition and efficiency, they also introduce new risks in the payment system. This poses new challenges to the Bank in the oversight of the payments systems to ensure that the prudential guidelines will effectively address the risks and at the same time, promote innovation while not inhibiting market potential.

The third focus area in 2005 was on promoting the migration to cost efficient electronic payments. With the migration of the automated teller machine (ATM) card to the chip infrastructure, multi-applications such as the debit and electronic purse applications have been incorporated into the ATM card to facilitate point-of-sale transactions at merchant outlets. Debit card transactions has increased at the rate of 24.6% per annum in the recent three years. Its total transaction value of RM240.1 million however, remains insignificant compared with credit card spending of RM40.9 billion in 2005. Nevertheless, there is significant growth for the debit card, particularly with the increase in the number of terminals and merchants that accept the interbank e-Debit transactions and also additional financial institutions participating as acquirers. Significant growth was also seen in the use of Interbank GIRO (IBG) system and Internet banking services. The IBG system recorded a high growth rate of 162.2% per annum while Internet banking transactions increased at a rate of 80.8% per annum over the past three years. Whilst there have been

promising growth in electronic payments, the payment system in Malaysia remains predominantly paper-based with cheque payments still accounting for 95.1% of the total value of non-cash payments in 2005.

In managing the transition to a more electronic-based payment system, the Bank continues to work with the banking institutions and the major retail payment system operator, Malaysian Electronic Payment System (1997) Sdn. Bhd. (MEPS), in developing and improving the country's payment system infrastructure to provide more efficient and timely payment services. The IBG Review Team, established by the Bank, has identified a number of focus and improvement areas where MEPS as the system operator, and the banks must address to make the system more efficient. This will enable the banks to deliver a higher quality service level to their customers, with tangible benefits in terms of cost reductions and enhanced revenue and profitability. During the year, the Bank has also taken several measures to facilitate the adoption of electronic payments in the Government sector, resolution of an industry issue on credit cards acceptance at petrol stations and organised the country's first payment system forum and exhibition. These efforts were made to promote a more widespread use of electronic payments to improve payment efficiency and to be able to take advantage of economies of scale.

As significant investments have been made in establishing and enhancing the electronic delivery channels and payment systems in the recent years, the focus is now on increasing accessibility, improving service levels and promoting its active use to reap economies of scale benefits and realise the efficiency gains. Malaysia is still a high user of cheques and cash, and therefore the potential cost savings in moving to electronic technology for making payments is substantial.

REDUCING RISKS IN THE PAYMENT SYSTEM

The promotion of a secure and effective payment system is recognised as one of the main pillars of the Bank, alongside the maintenance of financial and monetary stability. In this regard, the Bank has an important responsibility in minimising systemic risks in the payment system, particularly for the large value interbank payments where the impact of a failed payment transaction can spill over to other banking institutions, leading to a systemic crisis. As part of a continuing effort in promoting effective, safe and efficient payment systems, the Bank is implementing a "payment versus payment" (PvP) infrastructure for settling interbank foreign exchange transactions.

The Bank has an important responsibility in minimising systemic risks in the payment system, particularly for the large value interbank payments.

Foreign Exchange Settlement Risk

The PvP mechanism will be established jointly with the Hong Kong Monetary Authority, to facilitate simultaneous settlement of interbank US dollar and ringgit foreign exchange transactions during the Malaysian business hours. Under this mechanism, the ringgit part of the transaction would be settled through the RENTAS while the US dollar part would be settled simultaneously through the USD CHATS system in Hong Kong China. The PvP mechanism would enable financial institutions to reduce the settlement risks associated with foreign exchange transactions.

MANAGING PAYMENT SYSTEM STABILITY AND CONFIDENCE

During 2005, the Bank as the operator of the RENTAS and SPICK systems, continued to ensure that its Disaster Recovery Planning (DRP) arrangements with its

Measures were taken to ensure the continued reliability of the major payment systems and to sustain public confidence and trust in the payment instruments.

member institutions are operational and effective through regular live runs. In its oversight role, the Bank supervises and monitors major payment operators and designated payment instrument issuers to ensure that they continue to operate in a sound manner. The off-site monitoring is also complemented with on-site examinations to identify gaps that need to be addressed to ensure sustainability of operations. The Bank had also continued its role as a facilitator in coordinating industry efforts to enhance the retail payment infrastructure and also address common security threats on an industry-wide basis. These measures were taken to ensure the continued reliability of the major payment systems and to sustain public confidence and trust in the payment instruments.

Disaster Recovery Planning

The Bank manages the risks of the RENTAS system, benchmarked against the Bank for International Settlements' internationally accepted Core Principles for Systemically Important Payment Systems, which provides the minimum standards which covers the legal, financial and operational risks as well as efficiency, access criteria and governance. In this regard, the Bank has continuously enhanced its operations and practices to meet the standards, one of which is ensuring business continuity. In ensuring payment system stability and uninterrupted availability of the payment systems, the Bank operates through contingency procedures at its disaster recovery centre (DRC). Scheduled monthly live runs are conducted from the DRC for both the RENTAS and SPICK systems. The Bank also monitors the contingency systems of its member institutions and encourages them to review and strengthen their arrangements to ensure that their respective off-site DRC for critical systems are readily available and operational. Member institutions are required to conduct quarterly testing of their respective DRCs. In addition, an industry-wide live run between the member institutions' DRCs and the Bank's DRC was successfully conducted in June 2005.

Incident Response Plan and Internet Banking Security Requirement

The establishment of the Internet Banking Task Force (IBTF) by the Bank in October 2004 has led to the successful formulation of an Incident Response Plan (IRP) and the revision of the 'Minimum Guidelines on the Provision of Internet Banking Services by Licensed Banking Institutions'. The members of IBTF are from the Bank, 15 banking institutions, the Malaysian Communications and Multimedia Commission, the National ICT Security and Emergency Response Centre, Polis Diraja Malaysia and TMNet Sdn. Bhd. The establishment of IBTF was in response to the need to preempt the threat of Internet banking fraud, particularly on unauthorised fund transfers perpetrated via phishing scams. The IRP which was implemented on 1 September 2005, provides a structured and effective process flow for the banking institutions and relevant authorities to respond to a critical incident promptly. It also facilitates the sharing of information on Internet banking fraud related incidences.

Recognising the significance of preserving consumer confidence in using Internet banking services, which is one of the critical factors in encouraging the use of electronic channels and payments, the Bank will issue a revised 'Minimum Guidelines on the Provision of Internet Banking Services by Licensed Banking

Institutions' in 2006. The main feature of the revision is to introduce new authentication requirements, together with greater consumer education and protection measures. This includes the requirement for a two-factor authentication for risky transactions and putting in place an identity theft detection mechanism.

Completion of the Chip Migration Effort

The migration exercise for the ATM and credit card infrastructure led by the Bank together with the banking industry was completed in July 2004 and December 2005, respectively. In implementing a nation-wide migration exercise, cooperation of the relevant stakeholders and industry incentive mechanisms have been important in ensuring a coordinated and timely completion of the exercise.

In the EMV chip migration exercise for credit cards, the banking industry implemented a domestic liability shift policy on 1 January 2005 and disabled the acceptance of domestic magnetic stripe transactions on 3 May 2005. In the liability shift policy, an institution that is not EMV chip compliant would bear the liability of any fraudulent transaction. Following rising credit card fraud incidences at unattended 'self-service petrol pumps', the disablement of the acceptance of magnetic stripe transactions was implemented on 31 December 2004. To avoid fraud attempts using magnetic stripe cards, the banking institutions ceased to accept 'fallback' transactions (using the magnetic stripe data during instances when a chip is defective) for domestic credit card transactions with effect from 31 December 2005. These measures have effectively reduced counterfeit card fraud using information obtained from magnetic stripe credit cards.

To complement the chip migration exercise and promote a safer credit card environment, credit card institutions were also required to ensure that credit card information transmitted over telecommunication lines are encrypted to prevent information theft via 'wire-tapping'. As at end-2005, almost all acquiring financial institutions have implemented the line encryption requirement.

ENHANCING COMPETITION AND INCREASING PAYMENT EFFICIENCY

The Bank continues to collaborate with the banking industry to improve the operational efficiency, functionalities and service standards in the retail and wholesale payment and settlement systems. Infrastructure enhancements in the RENTAS and SPICK systems continued to focus on improving market efficiency and operational cost savings. During the year,

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several new participants joined the RENTAS and the IBG systems, which contribute to wider accessibility and economies of scale benefits. Policy changes have been made to further liberalise the payment industry, leading to the greater participation of non-banking institutions. The Bank continued to facilitate the collaboration of the local ATM network operator with its foreign counterparts in facilitating cross-border ATM and payment services.

Remittance Services and Electronic Money Policies

The Bank is pursuing a two-pronged approach to improve the remittance services in the country, which involves broadening the access to formal remittance channels and encouraging banking institutions to make their remittance services more accessible, convenient and cheaper. Towards achieving this, the Bank has liberalised its policy to allow qualified non-banking institutions to provide remittance services and banking institutions to appoint collecting agents to receive funds from the remitters in facilitating their remittance transactions.

Apart from the liberalised environment for remittance services, the Bank has also permitted more non-bank issuers to enter the electronic money market. This augurs well with the developments in smart card and mobile telecommunication technologies and the rising interest of non-banks in offering electronic money products. These developments would see greater migration to electronic payments and contribute towards reducing the cost of doing business in Malaysia.

Interbank GIRO System

The IBG system, which is operated by MEPS, facilitates bulk credit transfers of up to RM100,000 per transaction. An IBG Review Team was formed in November 2004 by the Bank, with representatives from the Bank, banking institutions and relevant Government agencies tasked to review the IBG services to identify key challenges and issues that should be resolved in order to meet the users' requirements and increase its usage. The team was dissolved in August 2005 after

completing its tasks. Measures recommended by the team includes standardising the crediting period and payment references, introducing convenient access points such as ATMs to conduct IBG transactions, improving the account validation procedures and to conduct a concerted awareness and promotion campaign. MEPS, the owner of the system, jointly with the banking institutions, will implement these measures as well as formulate specific strategies and roadmap to further spur the growth in IBG usage.

Regional ATM Link-up

MEPS established a regional link in July 2005 with PT Artajasa Pembayaran Elektronis (Artajasa), its counterpart in Indonesia, to facilitate cross-border ATM cash withdrawals in Malaysia and Indonesia. The facility allows customers of MEPS' member banks to withdraw rupiah using their ATM cards at Artajasa member banks' ATMs in Indonesia. Similarly, customers of Artajasa member banks are able to withdraw cash in ringgit from ATMs in the MEPS' network. As at end-2005, the regional link involved six Indonesian banking institutions with over 300 ATMs in Indonesia and four Malaysian banking institutions with over 2000 ATMs in Malaysia. The remaining banking institutions and development financial institutions in Malaysia are expected to participate in the regional link on a staggered basis in 2006. MEPS will also establish a regional ATM link with the Network for Electronic Transfers (Singapore) Pte. Ltd. in 2006 to facilitate cross-border ATM cash withdrawals between Malaysia and Singapore. The ATM link-up will also pave the way for future services such as cross-border funds transfers via the ATM networks.

Cheque Truncation

The SPICK cheque clearing system remains the largest retail payment system in the country. Infrastructure improvements continued to focus on improving market efficiency and operational cost savings through automation and straight-through processes. Recognising the strong inertia in cheque usage, the Bank will be implementing a cheque truncation system (CTS) aimed at reducing transportation and labour costs associated with the physical handling of cheques in the clearing process. The CTS will leverage on the current imaging infrastructure already in place and will provide opportunities for banking institutions to rationalise their back office operations to reap cost savings in further automating their cheque processing operations.

Scripless Trading of Commercial Papers in RENTAS

RENTAS, the wholesale payment system for real-time funds and scripless securities, continues to function as the backbone of the country's payment system infrastructure.

In enhancing the efficiency of financial market transactions, work has continued to prepare for scripless commercial papers (CPs) to be traded and settled in RENTAS. Inclusion of CPs into RENTAS will enable trading and settlement of scripless CPs to be conducted real-time on a delivery versus payment basis, thereby improving efficiency and eliminating settlement risks.

New Members in RENTAS and Interbank GIRO Systems

In line with the Bank's revised access policy, three more major financial market participants were admitted into the RENTAS in 2005 increasing its membership number to 56. The new members are Bank Simpanan Nasional, Bank Kerjasama Rakyat Malaysia Berhad and Kumpulan Wang Simpanan Pekerja. As for the IBG system, three locally incorporated foreign banks and one development financial institution became IBG members during the year, increasing the number of IBG participants to 16. However, the participation in the IBG system still lags behind the cheque system, which is participated by 30 commercial banks. With a larger number of participating banking institutions and correspondingly a wider coverage of users, economies of scale would be realised much sooner resulting in the lowering of the cost of production of payment services. In this regard, the Bank continues to encourage an open access policy to payment systems to facilitate a more comprehensive participation by banking institutions.

MIGRATION TO ELECTRONIC PAYMENTS

Improvements in technology, automation and straight-through processes have enabled the cost of electronic processing of transactions to decline relative to paper-based processing. Electronic payments which have a lower variable cost component compared to paper-based payments, will experience a declining unit cost as the number of transactions increases. In promoting a country-wide

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migration to electronic payments, the Bank has continued to play its role as a catalyst in addressing industry issues and facilitating industry forum. This includes identifying and

understanding the various hindrances and challenges in adopting electronic payments. Such inputs are relevant for the Bank's formulation of policies and initiatives to promote the wider use of electronic payments.

Government's Adoption of Electronic Payments

The Government's adoption of electronic payments would accelerate the adoption of electronic payments in the country. In recent years, the Government sector had introduced various electronic delivery channels to facilitate convenient access for the public to transact with the Government. In addition, efforts are being made to accept payment cards at most Government payment counters to facilitate consumer convenience and improvement in payment efficiency. These measures would pave the way for the adoption of electronic payments on a national scale, given that most individuals and businesses have payment transactions with the Government. In this regard, the Government has announced its acceptance of payment cards in the 2006 Budget. The Bank had engaged the credit card industry to review the current interchange arrangements to facilitate the acceptance of credit cards in the Government sector.

Financial Process Exchange (FPX)

The FPX Steering Committee has facilitated the adoption of a holistic and pragmatic approach in the long-term strategy for the FPX. MEPS, as the operator of the system, has conducted several merchant seminars in building the awareness on the FPX and its functionalities. Efforts were also made by MEPS and the banking industry to understand and cater for the needs of the merchants, apart from revising the pricing of the FPX services to increase the adoption of the FPX. Initiatives are being made to develop related software solutions that would facilitate smaller merchants to be integrated into the FPX payment solution at lower costs.

Identifying and Understanding Large Issuers of Cheques

In September 2005, the Bank had undertaken a study to gather profiles of cheque users in Malaysia, which includes identifying reasons for the issuance of large value cheques. Discussions with several high issuers of cheque revealed that the main reasons for the issuance of large value cheques were due to its wide acceptance, convenience and a relatively cheaper payment instrument. In addition, several inherent limitations in the electronic payment systems currently offered have hindered the adoption of electronic payment services, such as the absence of payment reference and notification, lack of account validation procedures, higher charges imposed for electronic payments, payment limits

imposed on electronic payments via the ATM and Internet banking facilities, limited participation of banking institutions compared to the cheque system and limited infrastructure to facilitate the accessibility of electronic payment services. While electronic payments have been made available in the marketplace, additional measures and initiatives need to be undertaken to address these issues to make electronic payments more prevalent.

Development of the Domestic Debit Card (e-Debit)

With the adoption of the chip infrastructure in ATM cards, multi-applications on the same card have been made possible. The domestic debit and MEPS Cash electronic purse applications are installed in the chip based ATM card or Bankcard, allowing the cardholders to purchase goods and services at merchant outlets. The debit application or e-Debit allows the cardholders to charge their purchases directly to their savings or current accounts while the electronic purse facilitates micro-payment by deducting the electronic money that has been loaded onto the card. Efforts are being made by the industry to promote the usage of the domestic debit cards. As at end December 2005, about 25,600 card acceptance devices have been deployed by the acquirers to accept interbank e-Debit transactions. More e-Debit terminals are expected to be deployed with the increase in the number of acquiring banks in 2006. In addition, in promoting the usage of the e-Debit application in the Bankcard, a financial institution has offered a 'cash back' facility at its merchant outlets. The 'cash back' facility allows the cardholder to withdraw cash at the merchant, whilst making payment for purchases using the e-Debit application.

National Payment Advisory Council (NPAC)

In December 2005, the Bank held its yearly NPAC meeting. The meeting which was chaired by the Governor, was attended by representatives from financial institution associations, industry associations, related Government agencies, the domestic automated clearing house and two foreign central bank members. The annual forum provides a platform for issues relating to payment systems to be raised and deliberated. The meeting provides the Bank with useful inputs for consideration in its policy making and developmental efforts, which includes the recent initiatives to set up the PVP mechanism to minimise settlement risk of foreign exchange transactions and the review of the regulatory framework for remittance business.

In line with the promotion of migration to electronic payments, the NPAC meeting deliberated on issues relating to the Bank's role in payment system development, measures to reduce large value cheques

issued, and strategies to promote the domestic debit cards to be widely used in the country. The NPAC agreed that the Bank's role as an overseer and an operator of payment systems should be clearly segregated within the Bank, and its operational role in cheque clearing and settlement is still necessary at this stage of development of the financial sector. To reduce the number of high value cheques issued, it was agreed that high issuers of large value cheques should be identified and efforts made to encourage them to use electronic payments. The domestic debit card scheme has significant potential to be more widely used. More concerted efforts are being taken by MEPS and its member institutions to increase the deployment of point-of-sale terminals and to promote its use amongst the debit cardholders.

Payment Systems Forum & Exhibition

The Bank organised the country's first Payment Systems Forum & Exhibition in November 2005. The forum provided a platform for the relevant stakeholders including representatives from financial institutions, payment service providers, Government agencies, corporations and industry associations to discuss issues and challenges in migrating the country to electronic payments. In conjunction with the forum, an exhibition was held to increase public awareness of the various payment channels available and to exhibit payment products and innovation.

The inaugural event brought together some 290 participants comprising users and key players in the private and public sectors. Twenty five speakers and payment system experts from a range of countries shared their experiences, perspectives, as well as issues faced in their migration to electronic payments. The migration to cost efficient electronic payments is regarded as a national agenda with 2010 being suggested as a target date for the full implementation of a national electronic payment roadmap. This would require an intensive engagement exercise with the various stakeholders in addressing a broad range of issues such as promoting public awareness and confidence in electronic payments, identifying and resolving current hindrances in electronic payment usage, improving electronic payment services, establishing payment standards, and providing consumers with incentives to adopt the more cost efficient payment methods.

MOVING FORWARD

In shaping the payment landscape, the Bank will continue to play its role as a driver in leading the country toward the adoption of more cost efficient payment systems and

instruments. In continuing to provide an enabling environment for the adoption of electronic payments, the Bank's initiatives and policies for 2006 would focus on enhancing the current electronic payment services, promoting competition, transparency and fuller participation in the electronic payment systems, and remaining vigilant on any new payment fraud trends.

Following the more liberalised environment for remittance and electronic money, a comprehensive regulatory and supervisory framework for remittance services and electronic money issuance by non-banking institutions will be introduced to put in place prudential and governance standards for these services. In addition, measures will be introduced to increase the awareness of the readily available remittance products and services with the aim of enhancing the use and accessibility to formal remittance channels and to prevent the potential for any money laundering and other illegal activities. In addition, the Bank will work jointly with regional Central Banks to harmonise payment rules between jurisdictions to facilitate more efficient cross border payments.

To further improve electronic payment services, the Bank will also be reviewing payment rules and governance of the major electronic payment systems to ensure that a minimum service level is uniformly practised. Payment services, such as the provision of payment references that accompany payments, should be offered by all banking institutions to provide the public with a uniform and reliable service. The Bank will also promote transparency in the service levels of the different payment systems, and the pricing of payment services. With increased transparency, users and merchants would be made aware of the cost of the different payment instruments and service level, to help promote greater competition leading to more cost effective and efficient payment services.

The Bank will also continue its effort to encourage the full participation of banking institutions in electronic payment systems similar to the level of participation in the cheque clearing system. To encourage the use of electronic payments on an industry-wide basis, the payment service has to have a wide reach in terms of participating banking institutions and a widespread network of access points for the users to conduct payment transactions conveniently. In line with the developmental efforts taken to improve the electronic payments infrastructure, concerted efforts will also be taken to reduce the use of cheques. The Bank will be working with targeted industries to facilitate their migration to electronic payments.

In addition, the safety of banking and payment services offered over the Internet and mobile channels will be strengthened to ensure that proper security arrangements and consumer education initiatives are implemented to assure the safety of these services. In its effort to continuously enhance the consumers' confidence in using electronic payments, the Bank will monitor the security environment of the various payment channels and issue or enhance its guidelines on fraud management when the need arises to mitigate any developing trend of payment fraud.

Direct Pricing of Payment Services

International studies that have been done have found that paper-based instruments are more costly to operate than electronic payments. Debit cards in particular, are less costly compared to credit card payments and cash withdrawals. It was also found that cash distribution to the public was largely financed through substantial cross subsidies from revenue generated from electronic payment services.

The key driver for consumers in some countries that have successfully migrated to electronic payments has been through the implementation of transparent cost-based pricing of payment transactions. Prices give signals that help consumers choose the more cost efficient payment services. The income from payment services earned by banking institutions in these countries are largely from fees charged rather than from cross-subsidisation of services. By adopting cost-based pricing strategies, banking institutions in these countries were able to reduce their total production cost for payment services and correspondingly increase their overall profitability, by channelling demand towards less costly payment services. The on-going automation of the payment system has resulted in less frequent traditional bank counter transactions, thus allowing banking institutions to focus increasingly on higher value services and relationship management.

In general, the prices of payment transactions in Malaysia does not reflect the cost of production of the respective payment services, and therefore does not provide the right price signals for consumers to utilise the more cost efficient payment services. Payments via cheques, for example, are inefficient as it incurs a large variable cost component contributed by labour costs from the physical handling of cheques, transportation and the costs for paper and printing of cheques. In addition to cost savings, electronic payments also provide benefits to consumers and merchants with shorter crediting period and certainty of payment compared to cheque payments. Merchants receiving

electronic payments would be able to improve their operational efficiency by reducing the customers' payment at the cashiers and also their cash holding, thereby minimising the risk of robbery and losses from pilferage. To move towards direct pricing of payment transactions, consumers should first be provided with an alternative electronic payment method that is affordable and comparable in terms of convenience and involvement of participants as in the cheque system. This would encourage consumers to use the relatively low cost electronic payment method when cheques are priced higher to reflect their true processing cost.

PERFORMANCE OF THE PAYMENT SYSTEMS

Overview

Notwithstanding the payment infrastructure developments and enhancements made in the recent years, Malaysia remains a high user of cash and cheques with its currency-in-circulation (CIC) accounting for 6.1% of GDP and cheques accounting for 95.1% of the non-cash payment value in 2005.

In terms of the major electronic payment modes, the usage of IBG and credit cards has been increasing. The share in value of non-cash payment over the past three years has increased at an average rate of 69.16% and 11.58% for IBG and credit cards respectively. Together, they account for 4.7% of total non-cash payment value in 2005. In terms of other payment cards, the use of charge cards is declining with its share of non-cash payment volume falling from 1.85% in 2002 to 0.81% in 2005, while the debit card has yet to make any significant impact with its share of the non-cash payment value and volume at 0.02% and 0.25% respectively. Electronic purse remains a popular micro-payment instrument in the transportation sector with an increase in its non-cash payment volume from 18.57% in 2002 to 47.5% in 2005. As the electronic purse is used mainly for small value payments, it accounted for only 0.07% of the non-cash payment value in 2005.

In terms of the CIC over GDP ratio, which is a proxy to estimate the use of cash, Malaysia's ratio of 6.1% is much higher than the average ratio of 3.2% in 2004

Table 10.1

Non-Cash Retail Payments in Malaysia Value (%)

	2002	2003	2004	2005
Cheques	97.38	96.97	96.32	95.06
Interbank GIRO (credit transfer)	0.38	0.57	1.00	1.84
Credit cards	2.06	2.26	2.48	2.86
Charge cards	0.15	0.15	0.14	0.15
Debit cards	0.01	0.01	0.01	0.02
E-purse - Toll payments	0.02	0.04	0.05	0.07
E-purse - Retail	0.00*	0.00*	0.00*	0.00*

Note: * negligible

Table 10.2

Non-Cash Retail Payments in Malaysia Volume (%)

	2002	2003	2004	2005
Cheques	47.74	35.89	30.53	26.05
Interbank GIRO (credit transfer)	0.15	0.24	0.57	1.35
Credit cards	31.44	26.90	25.09	24.04
Charge cards	1.85	1.37	1.00	0.81
Debit cards	0.25	0.22	0.21	0.25
E-purse - Toll payments	18.57	35.38	42.59	47.50
E-purse - Retail	0.00*	0.00*	0.01	0.00*

Note: * negligible

Table 10.3

Benchmarking with Other Countries

Countries (population)	2004				2005 Malaysia (26.38m)
	Netherlands (16.3m)	Norway (4.6m)	Sweden (9.0m)	Average	
Currency-in-circulation/GDP	2.1 ¹	2.7	4.7	3.2	6.1
Number of cheques transactions per inhabitant (credit transfer)	0.0	0.3	0.2 ²	0.2	7.6
Number of Giro transactions per inhabitant (credit transfer)	77.5	95.5	51.4	74.8	0.4
Number of point-of-sale terminals per thousand inhabitants	12	21	14	16	3
Number of ATMs per million inhabitants	484	473	315	424	223

Note: ¹ Figure as at 2001

² Figure as at 2002

Source: CPSS-Red Book Statistical Update December 2005, Norges Bank Annual Report on Payment Systems 2004 and Bank Negara Malaysia

for the Netherlands, Norway and Sweden, which are high users of electronic payments. The average numbers of Giro and cheque transactions per inhabitant in 2004 in the three selected European countries were 74.8 and 0.2, respectively, while Malaysia recorded an inverse ratio of 0.4 and 7.6 respectively in 2005.

While Malaysia has progressively introduced electronic payment systems to facilitate the migration to electronic payments, further measures need to be implemented to increase the accessibility to these payment services such as a wider deployment point-of-sale terminals for payment cards and enabling its ATMs for interbank funds transfer services. The average number of point-of-sale terminals per thousand inhabitants recorded in the selected European countries in 2004 was 16, compared with only three in Malaysia in 2005. In terms of ATMs, the average number of ATMs in the selected European countries per million inhabitants was 424 in 2004, compared to Malaysia's 223 ATMs in 2005.

Payment Systems and Instruments, and Delivery Channels

RENTAS

The value and volume of RENTAS transaction has been increasing over the past five years. In 2005, the RENTAS system settled 2.05 million transactions amounting to RM19.3 trillion, an increase of 6.8% and 8.1% in terms of volume and value of transactions respectively. The Interbank Funds Transfer System (IFTS) recorded an increase of 5.4% and 6.4%, in terms of volume and value respectively, while transactions through the Scripless Securities Trading System (SSTS) increased by 27.6% and 29.5% respectively.

In line with the Bank's revised access policy, major financial market participants admitted into the RENTAS in 2005 were Bank Simpanan Nasional, Bank Kerjasama

Graph 10.1
RENTAS - IFTS Turnover



Graph 10.2
RENTAS - SSTS Turnover

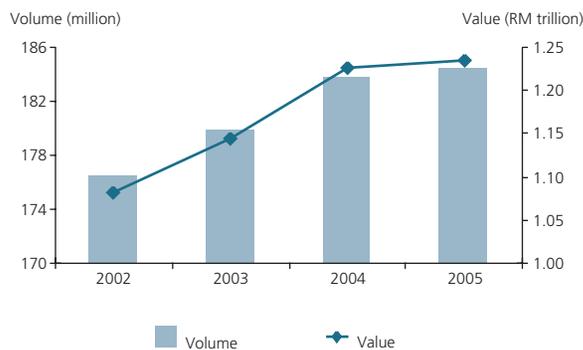


Rakyat Malaysia Berhad and Kumpulan Wang Simpanan Pekerja. As at December 2005, there are 56 RENTAS members, comprising Bank Negara Malaysia, 23 commercial banks, six Islamic banks, ten merchant banks, seven discount houses, two development financial institutions, two finance companies, three universal brokers, Cagamas Berhad and Kumpulan Wang Simpanan Pekerja.

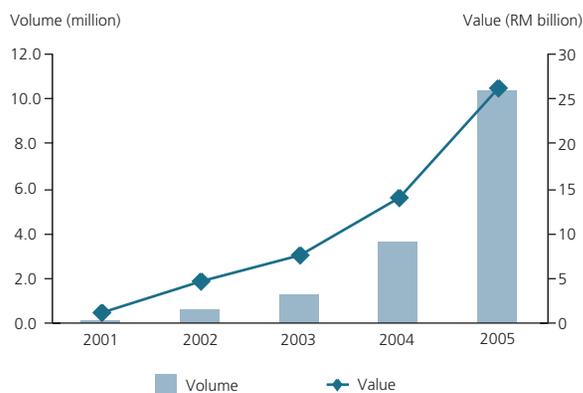
Sistem Penjelasan Imej Cek Kebangsaan (SPICK)

Cheques remain the most widely used non-cash payment instrument accounting for 95.1% of the non-cash payment value in 2005, and has recorded increases in volume and value since 2002. Volume of cheques processed through the SPICK cheque clearing centres increased marginally by 0.4% from 183.8 million cheques valued at RM 1.227 trillion in 2004 to 184.4 million cheques valued at RM1.235 trillion in 2005. This reflects the widespread cheque usage in the Malaysian economy.

Graph 10.3
Volume and Value of Cheque Transactions



Graph 10.4
Volume and Value of IBG Transactions



Interbank GIRO System (IBG)

Since its implementation, IBG continues to record an increase in transactions from 124,000 transactions valued at RM1.08 billion in 2001 to 10.4 million transactions valued at RM26.3 billion in 2005. Increase in IBG transactions is attributed mainly to the recruitment of corporate users by banking institutions and the increase in the Government's payment via electronic channels. Nevertheless, the IBG transactions which accounts for 1.9% of the cheque payment value in 2005, needs to increase much more significantly to be a major retail payment system.

Financial Process Exchange (FPX)

Since the pilot launch of the FPX in October 2004, more banking institutions and merchants have joined the system, bringing the total number of participants to six and 16, respectively. Two more banking institutions and several merchants are in the final stages of preparation to link to the FPX and are planning to come onboard by the first quarter of 2006. As at the end of 2005, the FPX recorded a total of 686 transactions amounting to RM16.8 million since its debut in 2004. Payment transactions made via the FPX are mainly for businesses, which are termed as B2B transactions, and from consumers to businesses or C2B transactions for online purchases. The introduction of FPX brings about greater convenience and efficiency as it enables both individuals and corporate users to make payments electronically from the banking institution of their choice. To optimise the potential of the system, wider participation is needed to have an enlarged community of online participants.

Payment Cards

Credit cards remain the most popular payment card in Malaysia with transaction value of RM40.9 billion in 2005 and had recorded an average annual growth in transaction volume and value of 13.3% and 17.4% per annum respectively during the recent three years. While the credit card offers a revolving credit line to the cardholders, on average about 60% of the total value of credit card transactions are repaid in full, indicating that a majority of the cardholders are using the cards as a convenient means in making payment. With the growing popularity of credit cards, the number of charge cards in circulation had declined at an average rate of 10.9% and its transaction volume has fallen at a rate of 5.8% over the same period. For debit cards, it has a sizeable card base of 14.3 million, comprising mainly the e-Debit application that has been incorporated into 12 million chip ATM cards and 2.3 million international brand debit cards. Although debit card transactions had increased at an annual rate of 24.6% and 49.8% per annum in terms of volume and

Table 10.4**Payment Card Transactions**

	2003			2004			2005		
	Number of cards	Value (RM mil)	Volume (mil)	Number of cards	Value (RM mil)	Volume (mil)	Number of cards	Value (RM mil)	Volume (mil)
Credit cards	5.10	29,359.9	146.3	6.58	34,874.3	164.5	7.84	40,892.5	184.5
Charge cards	0.31	1,895.7	7.5	0.28	2,037.6	6.6	0.24	2,074.8	6.2
Debit cards	3.15	87.4	1.2	7.71	143.1	1.4	14.32 ¹	240.1	1.9
Electronic purse - toll	2.98	566.3	192.4	4.23	733.7	279.3	5.66	972.1	364.5
Electronic purse - retail	10.47	0.1	0.02	21.13	0.3	0.09	30.27	0.10	0.02

¹ Figure includes Bank Simpanan Nasional

value, it remains insignificant compared to credit cards. The two main electronic purse schemes are the MEPS Cash scheme, a contact electronic purse which is used in the retail sector and the Touch 'n Go scheme, a contactless electronic purse which is used in the transportation sector. As in most countries' experience, electronic purse usage in the retail sector has been low while it represents a popular payment instrument in the transportation sector.

Mobile Banking and Payment Services

Broader usage of mobile phones has encouraged the acceptance and growth of the mobile banking and mobile payment services in the country. Currently, five banking institutions offer banking services using Short Messaging Services (SMS) via mobile phones, where the range of services include own account funds transfer, bill and loan payments, mobile prepaid airtime reload and balance inquiries. In facilitating mobile payments, banking institutions are partnering with third party service providers to allow subscribers to purchase goods and services or make payments using their mobile phones by either charging the amount to their credit cards, or debiting their savings or current accounts. A total of 391,773 transactions were conducted during the year with an aggregate value of RM4.4 million, mainly for bill payments and own account funds transfer transactions. The number of mobile banking subscribers has more than quadrupled to 127,566 as at the end of 2005 as compared to 25,734 as at the end of 2004. This was contributed by the new mobile banking or payment offerings during the year, apart from the large number of mobile phone users of 19.5 million as at the end of 2005.

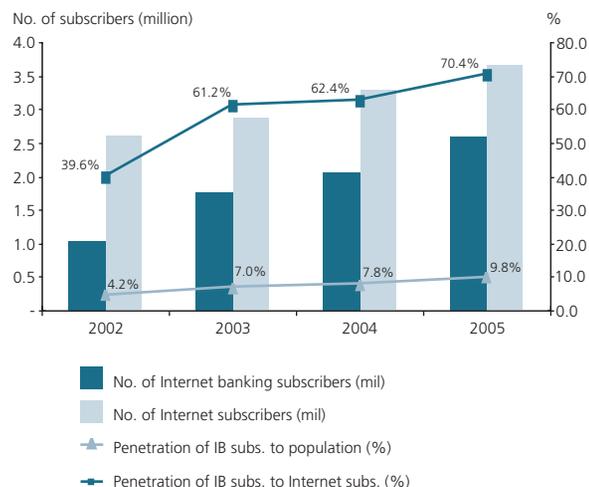
Internet Banking

Internet banking services provided by 14 banking institutions continue to provide convenience and low-cost accessibility to banking services especially in making

funds transfer, bill and loan payments, reloading mobile prepaid airtime and account balance and other inquiries. New services available through this channel include online share application service for initial public offering on Bursa Malaysia. The Internet banking channel is becoming increasingly more popular and its subscribers have doubled in the recent two years, with a total of 2.6 million subscribers or 70.4% of the Internet subscribers in the country as at December 2005. In addition, the annual value of online banking transactions has also grown by 69.6% from RM11 billion in 2004 to RM18.6 billion in 2005. The growth is largely contributed by the rise in using the channel for third party and own account funds transfers and payment of credit card balances.

Shared ATM Services

As at end-2005 there were 5,871 ATMs in Malaysia, of which, 5,490 ATMs belonging to 12 domestic banks

Graph 10.5
Internet Banking Growth and Penetration

and three development financial institutions are interconnected via the MEPS' ATM switch. As at end 2005, approximately 15.1 million chip based ATM cards issued by the participating member banks in the shared ATM network. The network facilitates infrastructure cost savings for individual financial institutions while providing consumers with wider access to ATM services through an expanded pool of ATMs. ATM services provide a number of other functionalities such as balance inquiry, intra-bank funds transfer, bills payment, shares application and reloading of electronic purse applications. However,

cash dispensing remains the most popular transaction amounting to RM156.5 billion or 99.8% of the financial transactions conducted at ATMs in 2005. MEPS and the financial institutions are planning to introduce interbank funds transfer and other payment functionalities such as reloading of prepaid mobile phones in the near future. Meanwhile, the regional cross-border link between MEPS and Artajasa in Indonesia recorded a total transaction volume and value of 376 and RM0.13 million respectively in the six months of operations in 2005.



