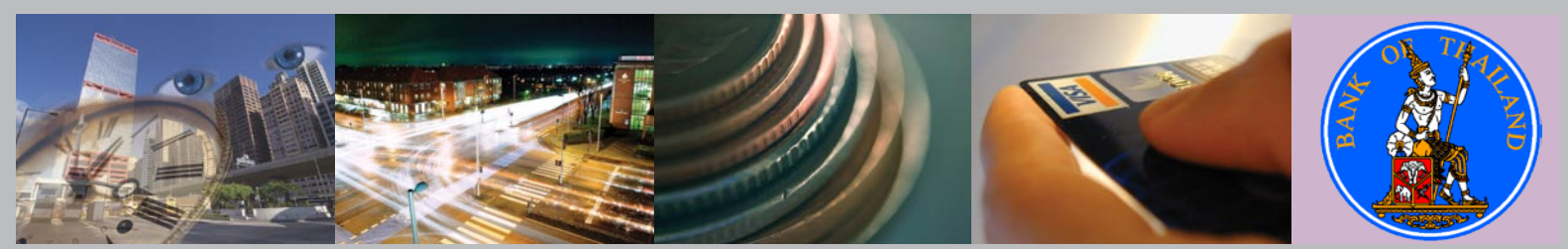


PAYMENT SYSTEM REPORT 2 0 0 7



JUNE 2008

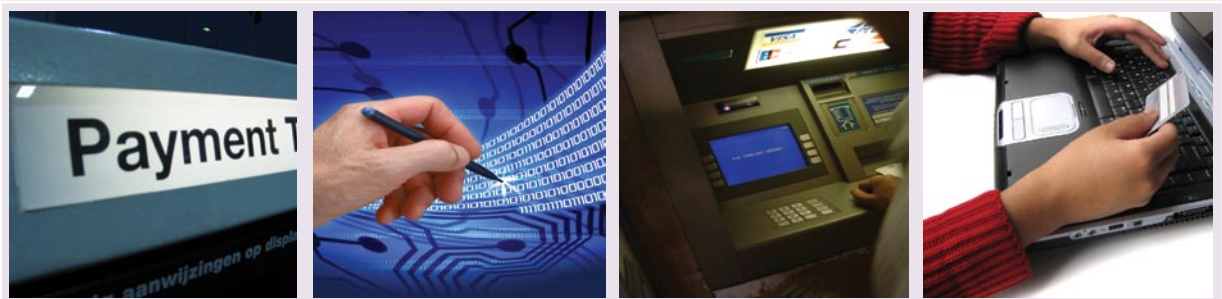


SUMMARY
2007 Statistical Highlights

Total population	63.04	million
Nominal gross domestic product (GDP)	8,485.20	billion baht

Technological Infrastructure

- Number of fixed-line phone subscribers per 100 people: 11
- Number of mobile phone subscribers per 100 people: 82



Payment Statistics

• Number of Thai commercial banks	18 with 5,070	branches
• Number of foreign commercial banks	17 with 17	branches
• Number of specialized financial institutions (banks only)	6 with 1,799	branches
• Number of post office branches	1,176	
• Number of automated teller machines (ATM)	25,943	
• Number of EFTPOS machines	218,829	
• Number of credit cards	12,003,369	
• Number of debit cards	23,293,608	
• Number of ATM cards	22,632,173	
• Currency in circulation per capita as of 31 December 2007	11,427	baht
• Number of cheque usage per capita ¹	2	cheques per year
• Monthly average value of credit card payments ²	3,331	baht per credit card
• Monthly average value of cash withdrawals via ATM card	7,018	baht per ATM card
• Monthly average value of debit card payments ³	73	baht per ATM card
• Monthly average value of cash withdrawals via debit card	7,051	baht per ATM card

¹ Average cheque usage per capita includes both interbank and intrabank cheques.

² Refers only to payments for goods and services through EFTPOS within and outside Thailand using domestically issued credit cards.

³ Refers only to payments for goods and services through EFTPOS within and outside Thailand using domestically issued debit cards.

Message from the Chairman of the Payment Systems Committee (PSC)

04

Payment system plays an increasingly important economic role in today's age of information technology. Not only does it serve as effective financial management tools for business sector and basic infrastructures for new businesses and services, including Electronic commerce via internet and mobile phone, it has also become part of public services and people's day-to-day living. Any disruption to the payment systems could therefore have adverse implications on the overall economy and social welfare.

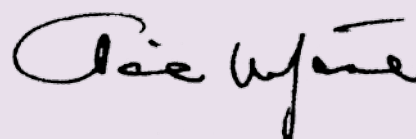
The Bank of Thailand (BOT) has consistently recognized the importance of payment systems as a critical component of maintaining financial stability. Therefore, maintaining payments system stability has been incorporated in the Bank of Thailand Act (4th Edition) B.E. 2551, along with maintaining monetary stability and financial institutions stability as core mandates of the Bank. Indeed, the new BOT Act establishes and clearly defines the role and responsibility of the Payment Systems Committee (PSC) in formulating payment systems policies, with an ultimate goal of ensuring the safety and efficiency of the BOT-Regulated payment systems and interbank electronic clearing systems. For comprehensiveness of all means of payment, banknote management is also included under the PSC.

Since 2007, the [Payment Systems Roadmap 2010](#) has served as the key strategic plan for implementation of the payment systems development for 2007-2010. This roadmap, which entails factors in influencing payment systems development and expectations of future payment system, has taken into account views from experts and representatives from various fields including commercial banks, trade and business sectors, independent scholars, and regulating authorities. Indeed, the Roadmap envisions the "Collaboration among public and private institutions in driving for the prevalent use of efficient and secured electronic payment services with fair fees on an adequate legal foundation with effective enforcement".

Notably integrated in the Roadmap are strategic objectives and plans of numerous dimensions: encouraging entrepreneurs and consumers to use more of electronic payment methods over cash payment; reviewing costs of payment services for the formulation of fair and reasonable pricing; enhancing the payment systems oversight efficiency to ensure secured environments in line with universal standards; taking preparatory steps for joining of international funds transfer systems. In this regard, the PSC has appointed eleven working groups and advisory panels, comprising competent professionals from commercial banks, state agencies, private enterprises, relevant regulators and independent academics, to work closely with BOT in working parties.

In addition to the initiation of the Payment Systems Roadmap 2010, the year 2007 also witnessed the beginning of other important projects. In October 2007, the **Interbank Retail Funds Transfer System** was introduced by the National ITMX Company Limited (NITMX), which previously operated this service under the name of "SMART" systems and had later taken over this operation originally done by BOT. This change represented a collaborative effort among private providers in upgrading the electronic payment infrastructure. The **Imaged Cheque Clearing System**, designed to reduce cheque transportation cost and increase efficiency of interbank cheque clearing, was also initiated during 2007 and set to start operation in 2009. Another initiative was the **Common Ticket Project**, in which the Office of Transport and Traffic Policy and Planning (OTP), Ministry of Transport played a major role in promoting the use of e-money standards practice in public transportation systems. In this regard, the PSC supports the adoption of open standards to facilitate entrepreneurs' participation and future applications by retail sectors.

In view of the progress made under the above initiatives and projects, we can look forward to even greater advancement of our payments systems under the Payment Systems Roadmap 2010. All PSC's achievements would not have been possible without the cooperation and commitments from all concerned parties, for which I would like to extend my heartfelt thanks and appreciation. I look forward to welcoming your continued valuable support and dedication for our future plans and upcoming programmes. I believe that such support will help advance the Thai payment systems to the outstanding international level such that it can effectively and efficiently serve our growing economic and financial activities going forward.



Mrs. Tarisa Watanagase

Chairman of the Payment Systems Committee

28 March 2008

Payment Systems Committee (PSC)

06



Chairman

Dr. Tarisa Watanagase

Governor

Vice Chairman



1. Miss Nitaya Pibulratana
Deputy Governor
Corporate Support Services

Responsibilities of the Payment Systems Committee (PSC)

(As to the order, Tor. 30/2007 Re: Appointment of Payment Systems Committee (PSC) dated 23 January 2007)

1. Formulate the country's payment policy and direction so as to ensure safe and efficient payment systems, reduce related costs while promoting trade and business, thereby leading to enhanced national competitiveness. The policy covers the following areas:

- Controlling the risks involved in financial systems
- Setting standards for safety and efficiency as well as technological requirements and relevant rules and procedures
- Encouraging fair competition among service providers to ensure the needs of users are met at reasonable prices
- Fostering cooperation among stakeholders in payments industry to maintain a safe and efficient environment

2. Provide an annual report summarizing the Committee's work in a standardized and transparent manner.



2. Dr. Bandid Nijathaworn
Deputy Governor
Financial Institutions Stability

Committee Members



1. Mr. Apisak Tantivorawong
Chairman,
Thai Bankers' Association

0 7



2. Mr. Pramon Sutivong
Chairman
Board of Trade of Thailand



3. Dr. Somchai Jitsuchon
Research Director for Macroeconomic
Development and Income Distribution,
Thailand Development Research Institute



4. Dr. Pansak Siriruchatapong
Director
National Electronics and
Computer Technology Center

Secretary



5. Dr. Chim Tantiyaswasdikul
Assistant Governor
Information Technology Group



Payment Policy for 2007

08

The Payment Systems Committee (PSC) is responsible for shaping the country's payment policies and direction to ensure safe and efficient payment systems in line with related technological progress and development of business sector at regional and international levels.

Principal policies approved by PSC in 2007

- **Payment Systems Roadmap 2010**

The "Payment Systems Roadmap 2010" has been approved by the PSC as a framework for the implementation of national payment systems policies over the course of 2007-2010. The Roadmap is aimed at fostering collaboration between public and private organizations towards wider use of electronic payment systems based on secure and efficient services, fair pricing as well as effective laws and enforcement.

- **Extension of PSC's Responsibility to cover Banknote Management**

It has been approved that the PSC's remit be extended to include banknote management. The object is to ensure all mediums of payment are covered by national policies and direction on payment systems and to facilitate greater efficiency in policy-level coordination of banknote management work between the BOT and commercial banks.

- **Common Ticketing Project**

The Committee established a policy to support the Common Ticketing Project of the Office of Transport and Traffic Policy and Planning (OTP), Ministry of Transport to develop a system which will, through the use of e-money, offer commuters speed and convenience in mass transport connections within Bangkok and its environs. The Project will contribute to the Committee's policy in promoting electronic mode of payment, reduce cash usage and improve efficiency in Thai payment systems. The PSC endorses the setting of open standards for the Project's e-money specifications so as to allow operators of new transit lines to take part in providing the services under international safety standards. The system also offers potential for future expansion into the retail business.

- **Pricing of Payment Services**

Commercial banks adjusted their fees for interbank payment services in 2006 and have agreed that pricing practices be reviewed every two years to respond to the country's prevailing economic situation and policy framework. In this connection, the PSC has laid down guidelines on pricing revision which would promote competition while ensuring fairness to both providers and users. The Working Group on Commercial Banks' Cost and Fees of Payment Services set up under the Payment Systems Roadmap 2010 has consequently been assigned by the Committee to take responsibility for implementing the established guidelines.

- **Cheque Clearing System Enhancement**

The current system for clearing cheques in Greater Bangkok or the Electronic Cheque Clearing System (ECS) has long been in operation and experienced frequent maintenance problems. The BOT's Executive Committee has therefore given its approval for the central bank to be in charge of developing an Imaged Cheque Clearing System (ICS) to replace the ECS. The new system is scheduled for launch in Greater Bangkok in 2009 and will be rolled out in the regions during 2010-2012.

- **Supervision of the National ITMX Co., Ltd.**

The PSC has approved the "Memorandum of Understanding on Interbank Transaction Management and Exchange (ITMX) Services between the Bank of Thailand and the National ITMX Company Limited" and the "Guidance on the Conduct of Electronic Payment Service Business". The objective is to ensure that the central bank can efficiently and transparently oversee the ITMX system and gain the confidence of all concerned whilst the "Draft of Royal Decree Regulating Electronic Payment Service Business B.E." has not entered into force.

Message from the Chairman of the Subcommittee on National Payment Cooperation (SNPC)

10

During 2007, the payment systems of Thailand have developed a step further following the implementation of the Payment Systems Roadmap 2004. Payment services by the National ITMX Company Limited (NITMX) came into operation in October 2007, while several other projects were also initiated, executed and underwent testing. The implementation was made possible by close coordination and active cooperation of many parties including the BOT units directly and indirectly involved in domestic payment activities, the Subcommittee on National Payment Cooperation (SNPC), all member banks, The Thai Bankers' Association, The Foreign Banks' Association, the NITMX, hardware and software providers as well as communications service providers. Such collaboration has enabled Thai payment scheme to make progress in a number of areas as follows:

1. SMART Credit services were developed, tested and implemented during the year. The system, which was smoothly transferred from the Bank of Thailand's Payment Systems Division to the new operator in October 2007, has a current membership of 33 banks.

2. Work was undertaken on planning, development and testing of ATM Switch, with every stage progressing according to plans. The system is due for launch among the first group of member banks in February 2008 and is expected to be available to all twenty members by the end of 2008.

3. An Interbank Liability Management system has been developed, assessed and tested as a mechanism to provide updated data needed for continuous monitoring of member banks' financial positions in all areas of services. The NITMX plans to introduce this risk management system to all member banks within the second quarter of 2008.

4. Operational, control and settlement procedures have been drawn up under the Same Day SMART Credit Programme which ensures interbank funds transfers being effected within the day of the transaction. The project aims to boost efficiency and convenience in interbank transfers while raising standards of payment services for businesses and banks' customers. It is also scheduled for introduction by the second quarter of 2008.

5. Development and testing work have started on the interbank pre-authorized direct debit or SMART Debit. In this connection, meetings have been held by a working group of the SNPC to discuss and establish rules, procedures as well as control and settlement systems and to develop and test the application programs. The service will facilitate electronic collection/clearing countrywide. The SNPC has set a target date for the launch in the second half of 2008.

6. The SNPC has asked the NITMX to develop an Internet channel for Online Retail Funds Transfer, in addition to the existing service channels of ATMs and branches of member banks. Such need is pointed because the Subcommittee is well aware that online banking will not only gain rapidly-growing consumer acceptance following the fast-moving IT and telecommunication advancement, but also offers users enhanced convenience through its worldwide and 24/7 availability of payment and transfer services. The SNPC is confident that the introduction of such channel will provide the foundation for future expansion of electronic funds transfer transactions in Thailand.

The success to date has demonstrated the contribution and commitment of all public and private institutions concerned, to surmounting various obstacles so as to achieve the established goals and objectives of the Thai Payment Systems Roadmap. On behalf of the Subcommittee, I, therefore, would like to thank each and every organization for participating in the past efforts and also look forward to the continued cooperation from all in working together with a common purpose of taking Thailand to the forefront of global payment systems and standards.



Teera Aphaiwongse

Chairman of the Subcommittee on
National Payment Cooperation

24 March 2008

Subcommittee on National Payment Cooperation (SNPC)

12



Chairman

Mr. Teera Aphaiwongse
Senior Executive Vice President
Bangkok Bank Public Company Limited

Responsibilities of the Subcommittee on National Payment Cooperation (SNPC)

(As to the order No. 1/2002 of the Payment Systems Committee (PSC)
Re: Appointment of Subcommittee on National Payment Cooperation (SNPC))

1. Establish a code of practice for payment service provision as well as technical infrastructural standards to ensure safe and efficient application by providers and fair competition among all relevant parties.
2. Formulate operating policies on the following areas:
 - 2.1 Driving for a common system of payment designed to achieve efficiency and reduce duplication of investments;
 - 2.2 Encouraging and introducing the use of payment media, related technologies and innovative payment services.
 - 2.3 Promoting linkages between different payment systems, both domestically and internationally.
 - 2.4 Collecting payment-related information and researches/studies for the operational benefit of public- and private-sector agencies concerned.
3. Consider and develop the model and approach to establish a collaborative body of payment service providers aimed at effectively taking over the SNPC's responsibilities as per paragraphs 1 and 2 above.

Subcommittee Members



1. Mr. Charamporn Jotikasthira
Executive Vice President
Siam Commercial Bank Public Company Limited



2. Miss Supatra Hiranrats
Executive Vice President
Krung Thai Bank Public Company Limited



3. Mr. Chet Raktakanishta
First Executive Vice President
Bank of Ayudhya Public Company Limited



4. Miss Sriprapa Yimsmith
Financial Market and Retail Manager
Thailand Post Company Limited



7. Mr. Prasert Wangrattanapranee
First Executive Vice President, Financial Control
Division, BankThai Public Company Limited



5. Mrs. Vira-anong Chiranakhorn Phutrakul
Senior Director, Division of Foreign Trade
Payment System, Treasury Service and
Debt Development
Citibank, N.A.



8. Miss Charinya Kaewmanee
Senior Director, Payment Systems Department
Bank of Thailand

Honorary Subcommittee Member

Subcommittee Member and Secretary



6. Mr. Pairat Nakapa
Senior Vice President, Finance Department,
Government Savings Bank



9. Miss Vilawan Vanadurongvan
Advisor, Bank of Ayudhya Public
Company Limited



10. Mr. Pramoth Chaiamphorn
First Senior Vice President
Kasikorn Bank Public Company Limited



SNPC's Achievements in 2007

1 4

The Subcommittee on National Payment Cooperation (SNPC), set up on 25 December 2002 by the Payment Systems Committee (PSC), has responsibility for establishing a code of practice and technical infrastructural standards for payment services; pushing for a common system of payment to reduce duplication of investments; encouraging innovative payment services; and developing linkages between different payment systems, both domestically and internationally. The SNPC's achievements over the course of 2007 can be summarized as follows.

● ITMX Development

Through the National ITMX Company Limited, the SNPC started developing the ITMX system in July 2006 and has since 15 October 2007 operated Bulk Payment Credit — Next Day as the replacement of the BOT's System for Managing Automated Retail Funds Transfer (SMART). A total of 33 banks have become members of the system. There are also plans to introduce the services of Bulk Payment Credit — Same Day, Bulk Payment Debit and Interbank Settlement Risk Control, and to gradually migrate ATM POOL members to the ITMX system beginning in February 2008.

● Cross-border ATM

1 5

The Committee continued its work, through the National ITMX Co., Ltd., on the development of the cross-border ATM linkage under the ASEANPay — the project on the promotion and development of cross-border retail payment systems in four ASEAN countries, i.e. Indonesia, Malaysia, Singapore and Thailand. The cross-border ATM cash withdrawal facilities between Thailand and Malaysia were introduced on 15 October 2006, with six Thai commercial banks and one Malaysian commercial bank participating in the scheme. During 2007 the Project also succeeded in having May Bank, a major Malaysian bank, joined the membership, thus resulting in a substantial increase in Thai-Malaysian ATM cash withdrawal transactions.



Table of Contents

1 6	2007 Statistical Highlights	2
	Message from the Chairman of the Payment Systems Committee (PSC)	4
	Payment Systems Committee (PSC)	6
	Payment Policy for 2007	8
	Message from the Chairman of the Subcommittee on	
	National Payment Cooperation (SNPC)	10
	Subcommittee on National Payment Cooperation (SNPC)	12
	SNPC's Achievements in 2007	14
	Table of Contents	16
	1. Key Developments of Domestic Payment Systems	18
	1.1 Payment Policy	18
	1.1.1 Draft Bank of Thailand Act (4th Edition) B.E. 2551	18
	1.1.2 Payment Systems Roadmap 2010	18
	1.1.3 Common Ticketing Project	19
	1.1.4 Payment Efficiency Promotion Program	20
	1.1.5 Executives' Meeting of East Asia-Pacific Central Banks (EMEAP)	20
	1.2 Infrastructure	21
	1.2.1 BAHTNET Initiatives in 2007	21
	1.2.2 Cheque Clearing System Enhancement Project	22
	1.2.3 Migration of SMART to ITMX	22
	1.2.4 Central Settlement System Enhancement Project	23
	1.2.5 ASEANPay	
	1.2.6 Working Group on BAHTNET International Linkage	24
	1.2.7 Securities Requirements for Settlement (SRS)	24
	1.3 Payment Systems Oversight	25
	1.3.1 Standard Assessment under FSAP (Financial Sector Assessment Program)	25
	1.3.2 BOT's Redefined Role as Payments Systems Regulator	26
	1.3.3 Oversight of National ITMX Company Limited	27
	1.3.4 Oversight of E-Money Operators in 2007	27
	1.4 Trends of Payment Services	28

2. Key Developments in International Payment Systems	32
2.1 Taiwan	33
2.2 Hong Kong	34
2.3 United Kingdom	35
3. Data and Statistics in Payment Systems	37
3.1 Developments of Payment Infrastructure	37
3.1.1 Branches of Commercial Banks, Specialized Banks and Post Offices	37
3.1.2 ATMs and EFTPOS Terminals	38
3.1.3 ATM, Debit and Credit Cards	39
3.1.4 Subscribers of Fixed-Line Telephones and Mobile Phones	41
3.2 Major Channels and Mediums of Payment	42
3.2.1 Use of Cash	42
3.2.2 High-Value Funds Transfer System	46
3.2.3 Cheque Clearing System	49
3.2.4 Pre-Authorized Direct Debit/Direct Credit	52
3.2.5 Bank Counter Services	54
3.2.6 Plastic Cards	56
3.2.7 Internet Banking	60
3.2.8 Electronic Money	61
3.3 Postal Transfer and Payment	62
3.4 Revenue from Payment Services	63
4. Abbreviations	65
5. References	67
6. Statistical Tables	68
7. Note on Statistical Tables	87

1

Key Developments of Domestic Payment Systems

18

1.1 Payment Policy

1.1.1 Draft Bank of Thailand Act (4th Edition) B.E. 2551

The Bank of Thailand Act (4th Edition) B.E. 2551, endorsed by the National Legislative Assembly in December 2007 and effective on 4 March 2008, prescribes that the central bank is authorized and responsible for maintaining the stability of the country's payment systems as well as all related implementations such as establishing or supporting the establishment of payment systems. The Act further stipulates the role and composition the Payment Systems Committee (PSC) as being mandated to determine all policies concerning BOT-regulated payment systems and inter-institution clearing system to ensure safety and efficiency. The BOT is also required, on a biannual basis, to report the payment policies to the Cabinet through the Finance Minister.



1.1.2 Payment Systems Roadmap 2010

A "Payment Systems Roadmap 2010" was drawn up and communicated in September 2007 by the BOT in cooperation with key player agencies in payment services sector, from the operator end to the user end, i.e. commercial banks, businesses and academics. The Roadmap is designed to provide a framework for the implementation of national payment systems policy over the course of 2007-2010.

The Roadmap sets out a vision of "cooperation among government and private organizations to increase electronic payment transactions through the implementation of efficient, stable and safe electronic payment services at fair rates under effective laws and implementation". The following strategic plans have also been devised to achieve the vision:

- (1) Promoting electronic payment services that appeal to "consumer" users;
- (2) Promoting electronic payment services that appeal to "corporate" users;

- (3) Studying and reviewing cost and fees of payment services;
- (4) Establishing standards and guidelines to ensure compliance with local and international laws and regulations;
- (5) Increasing efficiency in payment systems oversight;
- (6) Controlling the risks associated with the high-value funds transfer system (BAHTNET);
- (7) Taking preparatory steps for linkages between BAHTNET and international funds transfer systems;
- (8) Establishing retail payment system linkages among ASEAN members and selected Asian countries;
- (9) Developing payment systems that support international trade and investment between Thailand and neighbouring countries.

By early 2008, the BOT would have set up, as implementers of the above plans, working and advisory groups comprising representatives of relevant organizations, such as Thai Bankers' Association, Foreign Banks' Association, state-owned specialized financial institutions, Board of Trade of Thailand, National Electronics and Computer Technology Center (NECTEC), Thailand Development Research Institute (TDRI) and state agencies concerned. It is expected that each of these working and advisory groups would be able to achieve tangible results within 2010.

1.1.3 Common Ticketing Project

The BOT has served on the working party on common ticket which is led by the Office of Transport and Traffic Policy and Planning (OTP), Ministry of Transport. The objective of the working party is to collectively determine and agree a policy for developing a common ticketing system that promotes the setting of one common standard and e-money applications for public transport connections in Greater Bangkok while reducing cash usage and offering improved facilities for commuters. The OTP is in the process of studying e-money technologies and standards as well as operation guideline. A pilot project would then be launched to trial the joint system operated by the Bangkok Mass Transit System PCL (BTS) and the Bangkok Metro PCL (BMCL).



1 Key Developments of Domestic Payment Systems

20

1.1.4 Payment Efficiency Promotion Program

In 2007 the BOT undertook a program to improve payment efficiency with the purpose of promoting the appropriate and efficient use of payment mediums as follows:

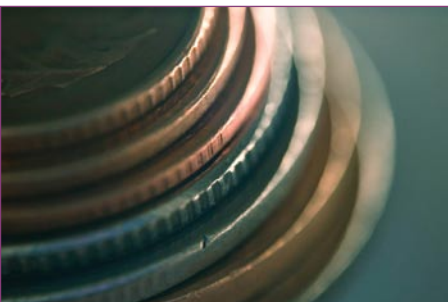
(1) Studying the landscape, competition and challenges faced by commercial banks' cash management business and conducting, in conjunction with the BOT Regional Offices, a survey into the usage behavior of and problems with payment services experienced by regional entrepreneurs in the hotel/tourism industry as well as the manufacturing and agro-processing segments which represent key sectors of the regional economy.

(2) Studying the effects and problems/challenges posed by the fee adjustment in 2006 on the Bulk Payment Credit services, while recommending the solutions to push for a wider adoption of interbank retail electronic payment methods in place of cheque and cash and to boost efficiency in the country's overall payment services.

1.1.5 Executives' Meeting of East Asia-Pacific Central Banks (EMEAP)

During the reporting year, the Bank of Thailand participated in two meetings of the EMEAP, i.e. the 16th Meeting of the EMEAP Working Group on Payment and Settlement Systems (WGPSS) held in Singapore, 17-18 April 2007 and the 17th Meeting of the EMEAP Working Group on Payment and Settlement Systems held in Seoul, Republic of Korea, 18-19 October 2007. Both meetings provided the forum for discussing important issues concerning payment systems. These ranged from the oversight of S.W.I.F.T., the development of member countries' payment and settlement systems, the need to set up a Regional Settlement Intermediary (RSI) to mitigate settlement risk and increase efficiency in cross-border bond transactions, anti-money laundering, contingency planning and procedures, and the impact of US sub-prime mortgage crisis upon payment and settlement systems. The BOT will be playing host to the 18th Meeting of the EMEAP WGPSS in March 2008.





1.2 Infrastructure

21

1.2.1 BAHTNET Initiatives in 2007

(1) BAHTNET Advisory Group Establishment: In view of BAHTNET being a systemically important payment system, the BOT had, in April 2007, sought cooperation from Thai Bankers' Association, Foreign Banks' Association and Specialized Financial Institutions in designating their representatives to form a BAHTNET Advisory Group. The role of the Group is to provide guidance and recommendations on system improvement as well as relevant rules, regulations and measures that would benefit users of BAHTNET and other domestic financial services. The Advisory Group, composed of representatives of 11 financial institutions, is required to meet at least every four months or as and when needed.

(2) BAHTNET Enhancement Project - Phase II: The BAHTNET system was enhanced to accommodate repurchases of floating-rate securities for Intraday Liquidity Facilities (ILF). Moreover, with effect from 24 October 2007, the BAHTNET fortnightly reference period was adjusted in line with the conclusions of the BOT's Monetary Policy Committee Meeting, i.e. from Wednesday to Tuesday of every second week. Improvements have also been made to the message format for third-party funds transfer so as to support the standard of S.W.I.F.T. (Society for Worldwide Interbank Financial Telecommunications).

(3) BAHTNET Fees Calculation Module Improvement: The application program has been fine-tuned to suit the changing needs in functions and services. These changes were partly the result of the linkages between BAHTNET and other external systems, such as the link-up with the Thailand Securities Depository (TSD) for purposes of securities settlement. Furthermore, Working Group on BAHTNET Fee Structure Revision was set up by the BOT in March 2007 to review and determine a new fee structure and to work with the BAHTNET Advisory Group in devising a fair and appropriate fee structure. The BOT would then discuss concepts and approaches with users of the services at next stage.

1 Key Developments of Domestic Payment Systems

2 2

1.2.2 Cheque Clearing System Enhancement Project

The BOT, in coordination with the Working Group on Cheque Clearing System Enhancement, has been developing an Imaged Cheque Clearing System (ICS) to replace the present system of Electronic Cheque Clearing System (ECS) which has been uneconomical to be maintained due to its outdated hardware and application.

In addition, the BOT and the Working Group have also taken the following standard-setting measures to accommodate the new system.

(1) Adapting cheque standards to suit the business environment and the future applications of ICS; consideration is also under way to define the scope of responsibility of the collecting bank and the paying bank.

(2) Researching on image specifications to be used in the collection process in order to establish the standard of cheque images for the new system.

The ICS is expected to be completely developed and begin operations in Greater Bangkok within 2009, before being introduced in stages throughout the country.

1.2.3 Migration of SMART to ITMX

Starting from 15 October 2007, the BOT has ended its role as the provider of the services of the System for Managing Automated Retail Funds Transfer (SMART) by annulling the BOT Regulation on Interbank Retail Funds Transfer Clearing System B.E.2543 and all related notifications. The system has since been transferred to the National ITMX Co., Ltd., the operator of ITMX Bulk Payment System which has launched the 'credit next day' facility as its first rst service.

During the early stage, however, the difference correction utility is still not available within ITMX Bulk Payment system. To enable the system to run smoothly, the BOT has therefore undertaken to process difference correction in clearing transactions made within ITMX Bulk Payment. The central bank's support has been given on a temporary basis from 1 November 2007 until the NITMX is able to develop a facility for difference correction, which is expected to be ready around the first quarter of 2008.





1.2.4 Central Settlement System Enhancement Project

The BOT has been implementing the Project with the objective of improving efficiency in the Multilateral Funds Transfer (MFT) services for payment transactions conducted by public and private institutions in order to facilitate members' operations and treasury management. In 2007, the central bank carried out system development and testing, and organized meetings to inform users on the improvements as well as relevant rules and notifications. The enhanced system is due to be operational by May 2008.

1.2.5 ASEANPay

The Meeting of the ASEANPay Steering Committee was held in Yogyakarta, Indonesia on 10-11 September 2007 to discuss the following issues:

- (1) The Draft ASEANPay Operational Framework, covering all related policies, rules and guidelines, anti-money laundering measures, fees structures as well as international transfer and settlement risk management. Singapore has undertaken to revise the draft framework by including recommendations subsequently sought from each participating country. Also to be taken into consideration would be the feedback from network operators of member countries with regard to data protection, easing of requirement to provide details of funds transfer purposes and transfer parties, investigation of suspicious transactions, international settlement and promotion of services/products.
- (2) In the meeting with member countries' network operators, the rationale for the Asian Payment Network Forum (APN) was put forward by the representative of the providers. The forum represents a collaborative effort by network service providers to achieve cross-border ATM linkages through collective establishment of common standards and business operations framework as well as enhancement of participating banks' competitiveness within mutual benefit. Four main types of services would be available under the scheme, i.e. withdrawal, balance enquiry, transfer and debit purchase.

1 Key Developments of Domestic Payment Systems

24

1.2.6 Working Group on BAHTNET International Linkage

On 13 September 2007, the BOT established a Working Group on BAHTNET International Linkage comprising representatives of various BOT units and representatives of four Thai commercial banks, i.e. Bangkok Bank, Kasikorn Bank, Krungthai Bank and Siam Commercial Bank. The primary objective of the Working Group is to analyze the benefits and impact of linking BAHTNET with overseas systems. The analysis would help indicate the appropriate approach for Thailand, while gearing the country up for international linkages on a payment-versus-payment (PvP) basis so as to reduce foreign currency risk.

The following were implemented by the Working Group during the year:

- (1) Examining the plans and overall operations of those international systems providing PvP settlement services, along with other issues requiring preliminary consideration in the system connections;
- (2) Consulting with representatives of overseas service providers of PvP settlement on the issues of legal and business impact; organizing a joint workshop to make an initial assessment of Thailand's readiness for linkage participation.
- (3) The Thai commercial banks serving on the Working Group are currently forming a project team to study the possible effects the link-up with international PvP systems could have on their internal processes.



1.2.7 Securities Requirements for Settlement (SRS)

Transactions among financial institutions in respect of payment services have necessitated net settlement transactions via BAHTNET which may involve settlement risks. Such exposure is brought about by liquidity risk or credit risk and could delay the settlement, causing the beneficiary institution to suffer from non-payment and possibly leading to systemic risk.

To safeguard against any damage arising from the above situation, the BOT has therefore devised a risk management measure of Securities Requirements for Settlement (SRS). Under the requirements, all BAHTNET

members participating in the net settlement system shall have to pledge their bonds as the last source of liquidity; and in the event that, after managing funds for settlement, members still have inadequate balance in their accounts for any given settlement, the BOT would purchase such members' SRS bonds to raise funds for their settlement transactions. However, if the value of the bonds in reserve is insufficient, the recalculation of net settlement would then be carried out according to the prescribed method so that the settlement can be completed within the same day. Due to be introduced in 2008, the BOT has been consulted with BAHTNET users and the BAHTNET Advisory Group about the measure in detail.

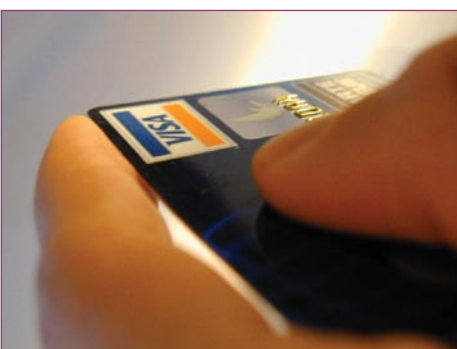
1.3 Payment Systems Oversight

1.3.1 Standard Assessment under FSAP (Financial Sector Assessment Program)

The BOT submitted the BAHTNET system for assessment under the Financial Sector Assessment Program (FSAP), a joint International Monetary Fund (IMF) and World Bank effort aimed at assessing the operation of member countries' financial sector under the Reports on the Observance of Standards and Codes (ROSCs). The assessment of BAHTNET, a systemically important system of the country, was conducted by IMF experts during 17-31 January 2007 and 3-16 May 2007.

The assessment of BAHTNET followed the standard of the BIS Core Principles for Systemically Important Payment Systems (CPSIPS) which cover assessment of the risk management, legal, financial, operational and efficiency aspects of the payment systems as well as the central bank responsibilities in applying the CPSIPS. Rating of compliance with these core principles is divided into five degrees, i.e. observed, broadly observed, partly observed, not-observed and not applicable.

The BAHTNET was assessed as fully observed for seven principles, broadly observed for two principles, and not applicable for one principle. The principles described as "broadly observed" was in relation to Core Principle I: Legal Framework and Core Principle IV: Settlement Finality, which was concluded from the



1 Key Developments of Domestic Payment Systems

26

assessor's opinion that Thailand has no legislation prescribing specific exception of the 'zero hour rule' enforcement. Accordingly, this can have the effect of voiding a BAHTNET participant's transfer transactions, if the participant were to be placed in receivership. However, according to the Council of State's legal opinions, a bankruptcy order shall take effect only from the time the order is made by the court and not from the start of the day (0.00 hour) of the bankruptcy. As regards the responsibilities of the central bank, the BOT was appraised as "fully observed" for all four areas of responsibility.

1.3.2 BOT's Redefined Role as Payments Systems Regulator

The BOT has redefined its role to be more as the regulator of the payments systems and less as a payment service operator with a view to gearing itself for the enforcement of the Royal Decree Regulating of Electronic Payment Services Business B.E.

Over the course of 2007, the central bank took strategic steps to prepare for its regulating responsibility in respect of electronic payment services business as follows.

- (1) Studying risk assessment and developing risk prevention measures in payment systems;
- (2) Revising the handbook of e-Money business supervision, examination, and analysis, published by the BOT Supervision Group, in accordance with the Ministerial Notification, Ministry of Finance: Business for which Permissions must be obtained according to Clause 5 of Announcement No. 58 of the National Executive Council ; the aim is to provide guidelines for a handbook of the oversight of electronic payment services business to be produced and issued in line with the Royal Decree Regulating of Electronic Payment Services Business B.E. which will come into force in 2008;
- (3) Drafting relevant notifications and rules in preparation for the forthcoming enforcement of the Royal Decree.

1.3.3 Oversight of National ITMX Company Limited

A “Memorandum of Understanding on Interbank Transaction Management and Exchange (ITMX) Services between the Bank of Thailand and the National ITMX Company Limited” was signed on 10 October 2007. The agreement would enable the BOT to efficiently and transparently supervise the ITMX system and provide assurance to all stakeholders whilst the Royal Decree Regulating of Electronic Payment Services Business B.E. has not taken effect.

1.3.4 Oversight of E-Money Operators in 2007

In 2007 the BOT fulfilled its role as the overseer of the six non-financial institution e-money issuers licensed under the Ministerial Notification, Ministry of Finance: Business for which Permissions must be obtained according to Clause 5 of Announcement No. 58 of the National Executive Council dated 4 October 2004. Overall, the business practices of these operators were found to have conformed fully to the established rules, procedures and conditions in operating business. Only one of them failed to comply with the condition which requires all issuers to maintain, at any given time, deposits at banks or specialized financial institutions at a level not lower than the balance of oat received from consumers. The BOT has since taken legal action against the issuer and ensured the situation has been corrected.

In addition, the central bank attended to all consumer complaints about unlicensed e-money issuers by investigating, following up, prosecuting, and revoking license to prevent any impact or damage to the public.



1 Key Developments of Domestic Payment Systems

28

1.4 Trends of Payment Services

There has been a strong growth in electronic payment usages. The competition among service providers both banks and non-banks plays an important role for such trend as they have competed to differentiate their services to better serve various groups of customers, categorized as follow.

1. **Businesses or commercial** users have the specific needs in making payment for payroll, bonus, dividends, commercial bills, taxes and other government services. There are four payment streams for this market segment;

- (1) **BAHTNET**, for high-value funds transfers;
- (2) **Cheque**, including the sale of paper cheques and cheque collection service;
- (3) **Bulk Payment**, for multiple-transaction arrangements of recurring transactions, such as salary, commercial and utility bills, etc.;
- (4) **Single Payment**, giving customers the options of electronic funds transfer via ATM, the Internet, fixed line and mobile phone.

It is expected that cheques will be increasingly replacing by all the above electronic payment streams, especially the bulk payment which is expanding its different variety of payment to be cheque replacement.

Banks will continue its predominant role in providing payment services to entrepreneurial segment, owing to their ability to provide various services and their extensive and accessible branch and electronic channels. Moreover, several banks have, over the past 4-5 years, started introducing cash management service for corporate segment, to provide total solution for both payment and collection. Cash management has brought corporate users greater convenience while helping streamline their operational processes. Clients have been able to carry out their financial transactions through different electronic channels without having to travel to the banks.



The current usage of cash management service is still confined to large corporate clients like multinational corporations (MNCs) and large local companies, that have better understanding and are aware of its benefits. Most small and medium-sized enterprises (SMEs) are still not familiar with the service. However, many banks are beginning to focus more on the SME segment since it represents a large yet relatively untapped market. In future cash management will be a crucial factor in increasing the payment and collection efficiency of SME customers.

2. **Consumers or household** users generally need to transfer money from one to another, pay back their debts and make payments for goods and services as well as taxes and other government payments. In addition to banks, non-bank institutions have started to play a bigger role in household segment, leading to higher competition in providing highly advanced service in the market. It is expected that in this five-year period, the competition will focus on the following services;

- **Card-based payments**, covering both debit and credit cards will continue their leading role as the medium of payment to replace cash usage in the next five-year period. The number of debit card payments are estimated to have higher growth rate than that of credit cards due mainly to debit card's wider cardholder base that is not subject to a minimum income requirement set by the BOT as in the case of credit cards.

On card technology, the industry will see more innovations launched to attract users in both security and convenience terms. A number of commercial banks are set to issue, in 2008, their dual interface card, having both contact and contactless features within one card. The contactless system will be a suitable solution for those payment environments where speed is required and transactions are of low value e.g. paying sky-train fares.

1 Key Developments of Domestic Payment Systems

30

- **Person-to-person payment services** will become faster and simpler, as a wider range of service channels will be available to users, particularly the electronic channels like ATM, mobile phone and Internet. Moreover, several banks have started to offer their person-to-person payment services to non-account-holding customers. Apart from domestic transfers, there are also plans to streamline and provide international transfer facilities at a lower charge.
- **Bill Payment Services;** nowadays, consumers seem to have increasing need for bill payments as seen from the growing number of service providers and thus a greater choice for users. Most payments are currently made by cash at branches of operators, e.g. banks, convenience stores, department stores and post offices. In the future, however, electronic channels such as ATM, the Internet and mobile phone in particular, will play a larger role in bill payments. These electronic systems will not only bring payers added convenience, but also lighten their travel load.
- **E-Money** will have an increasingly important part to play in low-value payments. Users will find it more convenient to carry than cash and enjoy a faster way to pay with the need to handle change being eliminated. However, the e-money facilities available now in Thailand are all in closed loop systems where customers are allowed to use their e-money at a specific number of merchants having contract with e-money operator. Any expansion in group membership number of merchants or introduction of open loop schemes to enable payments across different groups/networks would therefore lead to

wider acceptance of e-cash services.

It is expected that competition among providers will be more intensifying in respect of innovation of services as alternative replacements for cheque and cash. Operators will also be focusing more efforts on the delivery of services through electronic channels due to its wider reach of users and lower cost by comparison to the branch channel. These trends correspond with the developments prevalent globally

2

Key Developments in International Payment Systems

32

Contactless Payment

Contactless payment means a form of payment using radio frequency identification (RFID) contained in credit card, key fob, smart card or other devices to ensure secure payment. The microchip embedded in the card enables the user to carry out transactions more conveniently by simply holding the card over a point-of-sale reader. Standard transaction time for contactless payment is almost two-times less than that for payments by cash, debit cards or credit cards, since no signature is required for transactions of low value. Thus, consumers tend to spend more easily due to transactional convenience.

One example of contactless payment applications is MasterCard PayPass™. Because of its RFID technology and platforms which assure users worldwide of smooth transactions, the card has gained popularity in many countries, e.g. Taiwan, the United States, Korea, Japan, Canada, the Philippines, Australia, Thailand, Malaysia and the United Kingdom. At present, there are about 10 million cards in circulation globally, with more than 32,000 merchants accepting PayPass.





2.1 Taiwan

33

With advanced technology of MasterCard PayPass™ that provides a speedier and more convenient model compared to other plastic cards, the consumer needs only tap the MasterCard or other MasterCard PayPass™ devices containing contactless chip on a reader to make a payment. Additionally, users are not required to sign for any payments below 25.00 US dollars, allowing them to complete the transactions in a short space of time. The solution has therefore become popular with payment environments where speed is essential, such as fast food restaurants, coffee shops, supermarkets, cinemas, petrol stations, convenience stores and car parks.



In Taiwan, a mobile payment system known as "emome" has also been developed for remote payment via cellular telephone. This real-time mode of payment uses a contactless chip card which is a recent innovation in Taiwan. There are applications over local area networks to provide enhanced facilities for consumers.

As regards electronic transportation payment, there is the TaiwanMoney Card, the world's first Paypass Chip Combi Card which combines both contact and contactless payment solutions for electronic fare payments and small purchases or transactions at retailers. The card brings users added convenience, since it functions as an e-ticket for mass transit while enabling commuters to pay for transport on buses, ferries, trains and public parking. The integrated contact and contactless features allow the cards to be topped up easily.



The introduction of such payment solution through integration of cross-industry services enables the TaiwanMoney Card to be used either as a credit card, an electronic purse or an ATM card. It also offers enhanced payment services for daily activities with automated exibility, for example, if any card is found to have insufficient amount of money, the payment transaction will be automatically charged to another credit card and shown on the credit card statement accordingly.

2 Key Developments in International Payment Systems

34

2.2 Hong Kong

The Octopus card is a stored-value smart card with contactless payment feature which enables the user to make payments by electronic transfer.

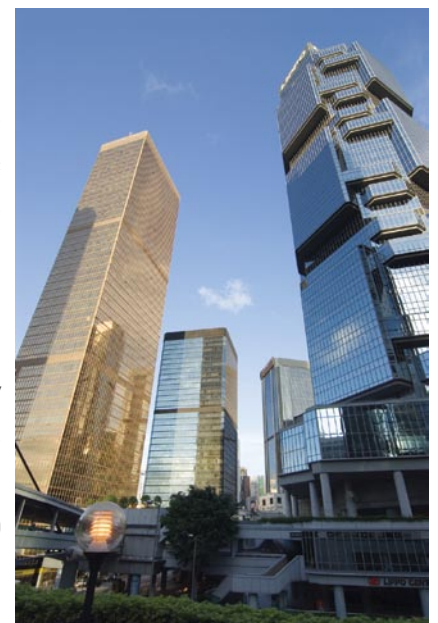
The system of Octopus card was introduced in Hong Kong in 1997 for the city's mass transit fare collection and has since been extended to all public transport systems in Hong Kong. It has increasingly gained widespread use for payment at convenience stores, supermarkets, fast food restaurants and vending machines.

The Octopus card has been growing in popularity. There are currently over 14 million cards in circulation, twice the number of Hong Kong's population. The cards are used by 95 percent of the population of Hong Kong aged between 16 and 65, making more than 10 million daily transactions worth 29.0 billion HK dollars overall or about 3.7 billion US dollars per year.

Types of Octopus Card

- On-Loan cards are designed for day-to-day use, originally for public transport payment. No personal data, bank account or credit card details are stored on these cards.
- Sold cards are souvenir cards released for festivals or occasions such as the Chinese New Year. The cards have no stored value and are non-refundable, but they can be used as ordinary cards.
- Special-purpose cards like Airport Express Tourist Octopus are targeted at visitors to Hong Kong. Users are required to show passports upon purchase and are able to use the cards to pay for transport services in Hong Kong, including free rides to and from the airport.

Although the card started off as means of fare payment, the system later expanded into various other purposes such as payments for goods and





services at convenience stores, coffee shops, photobooths and parking meters. The cards are also used for access control in buildings and schools.

35

Payment

Users can make a payment by holding the card above a reader from up to 2-3 centimetres even if the card is in a wallet or a purse. Discounts are generally offered for payments made using an Octopus card, e.g. 10 percent for bus fares and higher discounts for round-trip. A maximum value of 1,000 HK dollars may be stored on an Octopus card. On-Loan cards include an initial deposit of 50 HK dollars while Sold cards have no initial deposit value.

The Octopus cards are also available in alternate forms of key-chains, wrist watches, pocket watches and mobile phone covers which are easy to use with a simple wave of them over a card reader. An Octopus watch or cellphone cover can store value up to 1,000 HK dollars. At present, the usage of Octopus card outside Hong Kong has expanded to some cities of China.



2.3 United Kingdom

In the UK, the popular PayPass cards have enabled users to complete their payment transactions within seconds, as no signature is required for purchases of 10 pound sterling or less. The system eliminates the need to insert a card into a reader, enter a PIN or carry coins. In terms of security, PayPass relies on the same technology as Chip-and-PIN card, assuring cardholders of highly secure transactions although signatures are not required.

Consumers and retailers in Europe, America and Asia have all acknowledged the convenience and security of the PayPass scheme. Most importantly, the system brings the advantage of speed to cardholders'

2 Key Developments in International Payment Systems

36

everyday living where payments are largely of low value, e.g. buying newspapers, a breakfast at fast food restaurants or cinema tickets. The option of a 'tap and go' card has made their payments much simpler. The scheme was officially launched in London in September 2007, with a countrywide roll-out planned for 2008. It is estimated that by the end of 2008 about five million cards will have been issued and that they will be accepted by 100,000 merchants.

PayPass is a simple and exible system to use. Those already holding a credit or debit card can either have the contactless technology added to their existing card or have a new card issued. The solution provides increased convenience whilst promoting the use of payment cards among consumers.

In 2007, PayPass payments in the UK numbered more than 20,000 million transactions annually, with transactions under 10 pound sterlings totaling around 200,000 million pound sterlings. The popularity of the card is due chiey to its high level of security as well as speed and simplicity for low-value payments.

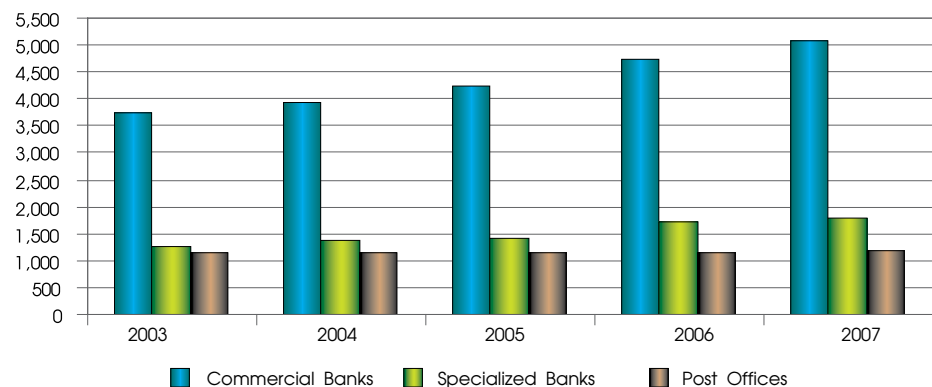
Furthermore, the use of plastic cards in 2007 climbed more than threefold in ten years, with a total value of over 321,000 million pound sterlings and debit cards registering the highest rate of growth. The dramatic rise was the result of consumer preference and increasing number of providers/merchants. It is therefore predicted that by 2016 there would be an 89 percent rise in card usage.

Among consumers of contactless systems, 60 percent are under the age of 25. About half of the consumers in the 25-34 age group prefer debit and credit cards to cash and are satisfied with the enhanced convenience and technology featured in these cards, since they need only look for the PayPass symbol, tap their card against the reader and the payment is complete.

3.1 Developments of Payment Infrastructure

3.1.1 Branches of Commercial Banks, Specialized Banks and Post Offices

Figure 1 : Number of Branches of Commercial and Specialized Banks and Post Offices



Source : Bank of Thailand

In 2007 commercial banks and specialized banks expanded by 7.8 percent and 5.0 percent respectively, while 18 new post offices were established, or 1.6 percent of the 2006 postal branch network.

- **Commercial banks:** The total number of branches rose from 4,718 in 2006 to 5,086 in 2007. Of these, 5,070 were Thai commercial banks and 16 were foreign bank branches.
- **Specialized banks:** There were a total of 1,799 branches, compared with 1,714 branches in 2006. The Bank for Agriculture and Agricultural Co-operatives (BAAC) had the largest network of 931 branches, since its service units nationwide have been upgraded to sub-branches. It was followed by the Government Savings Bank and the Government Housing Bank with 598 and 135 branches respectively.

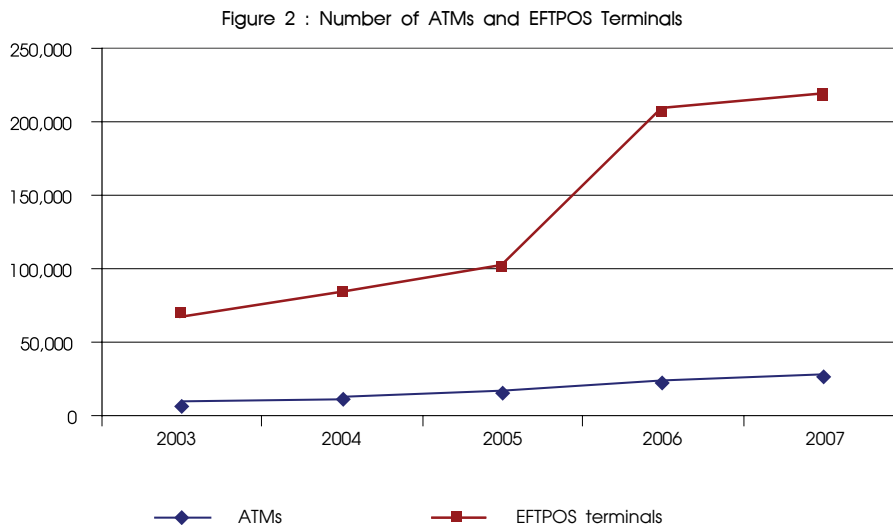
3 Data and Statistics in Payment Systems

38

Major Thai commercial banks established a significant number of new branches and extended working day to Saturday. They also set up sub-branches in department stores, supermarkets, office buildings, universities and petrol stations in order to broaden their customer base into provincial markets and other segments such as students, etc.

- **Thailand Post Company Limited** had 1,176 branches altogether, 18 of which were set up in 2007.

3.1.2 ATM and EFTPOS Terminals



Source : Bank of Thailand

Currently, commercial banks have focused increasingly on installation of automated teller machines (ATMs) as a channel for funds transfer as well as payment for goods and services. Many banks have also added barcode readers to the ATM machines so that customers can make bill payments economically with greater speed and convenience.

- The total number of ATMs went up to 25,943 units from 21,988 units in 2006, an increase of 18 percent. The proportion of debit and ATM cards to cash machines in 2007 was 1,851 cards per machine, decreased from 2,091 cards per machine in the previous year.

- **EFTPOS terminals**, went up to 218,829 units, increased from 208,942 units in 2006 or 4.7 percent increase. The proportion of debit and ATM cards to EFTPOS terminals rose to 161 cards per terminal from 119 cards per terminal in 2006

The growing popularity of debit-card and credit-card use over cash was due primarily to acquiring banks' business expansion as well as effective marketing of debit and credit cards on the part of commercial banks and non-bank institutions.

3.1.3 ATM, Debit and Credit Cards

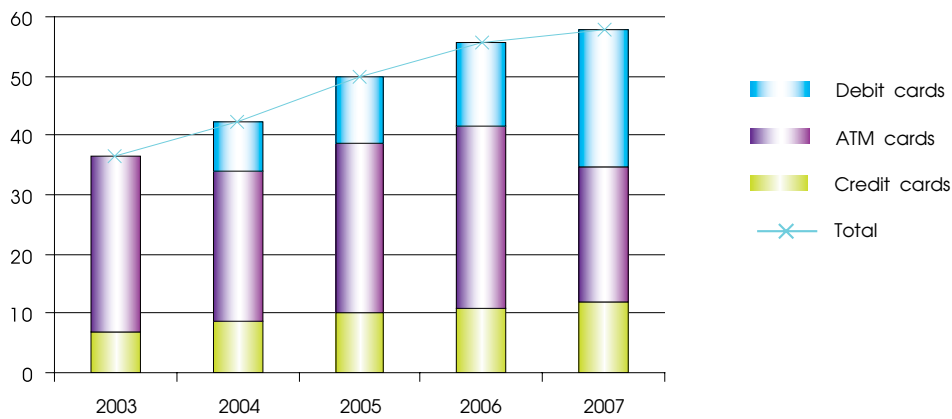
- **The total number of ATM cards** dropped by 26.6 percent to 22.6 million from 30.8 million in the previous year.
- **The total number of debit cards** rose by 66.9 percent to 23.3 million from 14.0 million in 2006.

In 2007 debit cards made up the highest proportion of the volume of plastic cards in use, 40 percent compared to 25 percent in the previous year. ATM cards represented 39 percent of all plastic cards, decreased from 55 percent which was the largest share in 2006. Credit cards accounted for 21 percent of all cards in use, slightly increased compared with 20 percent in 2006

Commercial banks have issued debit cards in place of ATM cards and have organized promotional campaigns as well as expanding card acceptance network in order to encourage more use of debit cards by customers at the point of sale, which resulted in the falling proportion of ATM cards.

3 Data and Statistics in Payment Systems

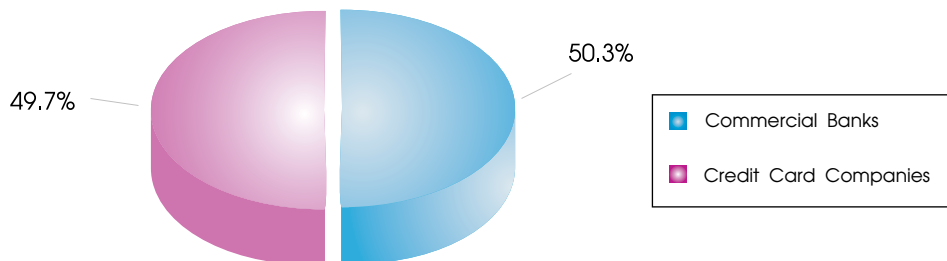
Figure 3 : Number of Credit Cards, ATM Cards and Debit Cards



Source : Bank of Thailand

- The total number of credit cards was 12.0 million, an increase of 10.1 percent from 10.9 million in 2006. These were composed of 6.04 million bank cards and 5.96 million non-bank⁴ cards, which accounted for 50.3 percent and 49.7 percent respectively of all cards in circulation.

Figure 4 : Composition of Credit Card issued by Commercial Bank and Credit Card Companies

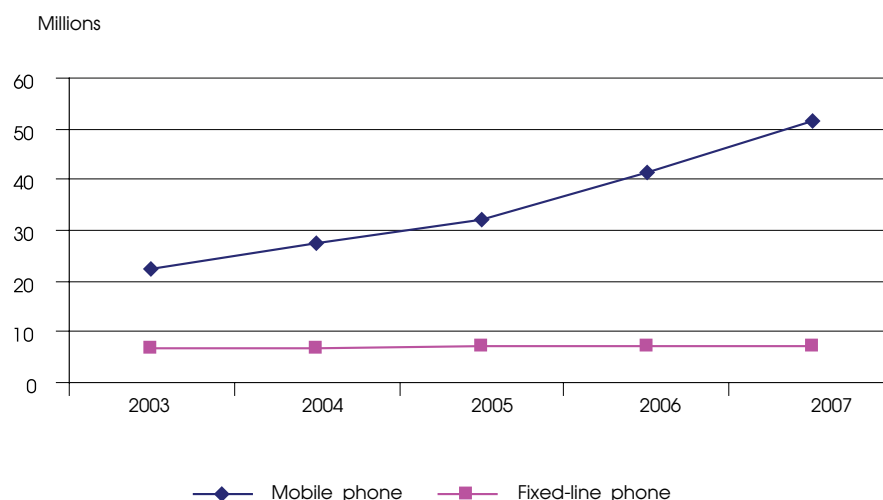


Source : Bank of Thailand

⁴ These non-bank institutions or credit card companies were Krungthai Card Company Limited, Krungsriyudhya Card Company Limited, General Card Services Company Limited, Cetelem (Thailand) Company Limited, Diners Club (Thailand) Company Limited, Tesco Card Services Company Limited, American Express (Thai) Company Limited, AEON Thana Sinsap (Thailand) Public Company Limited, AIG Card (Thailand) Company Limited and Capital OK Company Limited.

3.1.4 Subscribers of Fixed-Line Telephones and Mobile Phones

Figure 5 : Number of Fixed-Line and Mobile Phone Subscribers



Source : Bank of Thailand

Fixed-line telephone services continued to be provided by 3 operators. TOT Public Company Limited operated Bangkok and regional networks, while True Corporation Public Company Limited served only in Bangkok and TT&T Public Company Limited operated only in other provinces. In 2007, 11.1 percent of the country's population was subscribed to fixed-line telephone services, with a total of 7.02 million telephone lines or down by 0.3 percent from 7.04 million lines in the previous year.

There were 5 mobile phone operators, namely Advance Info Service Public Company Limited, Total Access Communication Public Company Limited, Thai Mobile Company Limited, Hutchison CAT Wireless Multimedia Company Limited and True Move Company Limited. In 2007, the number of mobile phone subscribers went up by 10.3 million to 51.6 million, representing an increase of 24.9 percent or a slower growth by comparison to the 2006 rate of 29 percent. The majority of subscribers were prepaid users which totaled 46.0 million or 89.1 percent of all mobile subscribers. Postpaid users numbered only 5.6 million in total, accounting for 10.9 percent of all subscribers.

3 Data and Statistics in Payment Systems

42

3.2 Major Channels and Mediums of Payment

3.2.1 Use of Cash

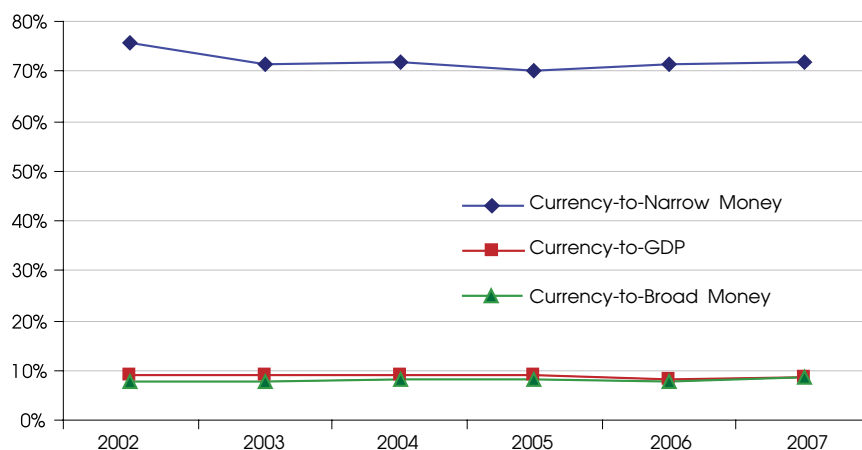
Currency in circulation per capita has been trending upwards in line with economic growth and Gross Domestic Product (GDP). It went up from 10,394 baht in 2006 to 11,427 baht in 2007, while GDP per capita rose in 2007 to 134,604 baht from 124,630 baht in the previous year (Table 1).

Table 1 : Currency in circulation per capita and Gross Domestic Product per capita (GDP)

	2002	2003	2004	2005	2006	2007
Currency in circulation per capita (baht)	7,891	8,545	9,638	10,106	10,394	11,427
GDP per capital at current prices (baht)	86,794	93,808	104,720	113,675	124,630	134,604

Source : Bank of Thailand

Figure 6 : Ratios of Currency to GDP, Narrow Money and Broad Money

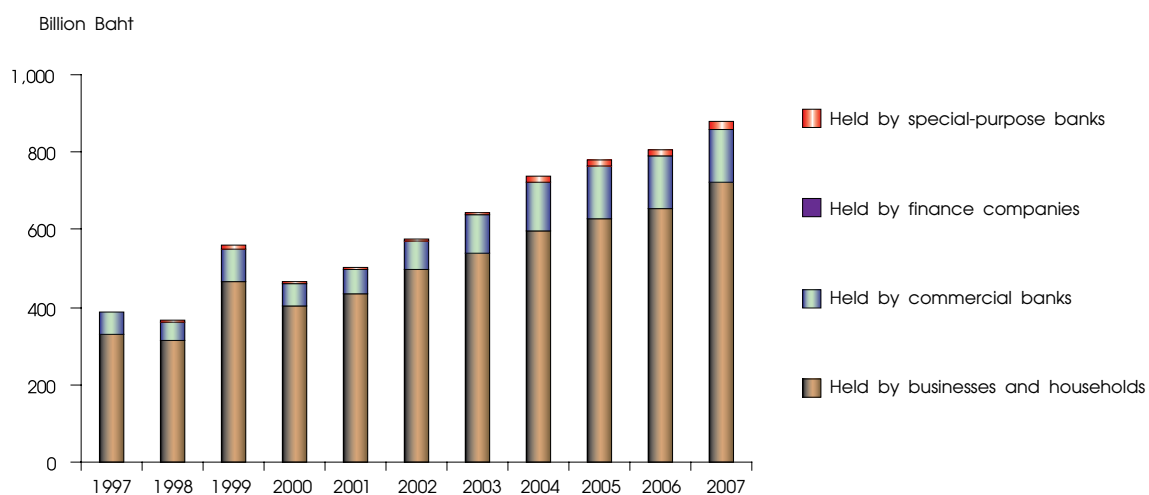


Source : Bank of Thailand

The above chart (Figure 6) illustrates that the ratios of currency to GDP, to narrow money⁵, and to broad money⁶ have relatively stayed at a steady level. The currency-to-GDP ratio had remained unchanged at 9 percent since 2002 and started to dip to about 8 percent in 2006 and 2007.

It can be seen from the overall composition of currency that there has been a continuous increase in currency held by the public⁷ (see Figure 7), with the growth of 10.3 percent in 2007.

Figure 7 : Composition of Currency



Source : Bank of Thailand

⁵ Narrow money means currency held by public sector plus demand deposits at commercial and special-purpose banks

⁶ Broad money includes currency held by public sector plus all kinds of deposits at commercial and special-purpose banks as well as finance companies' promissory notes.

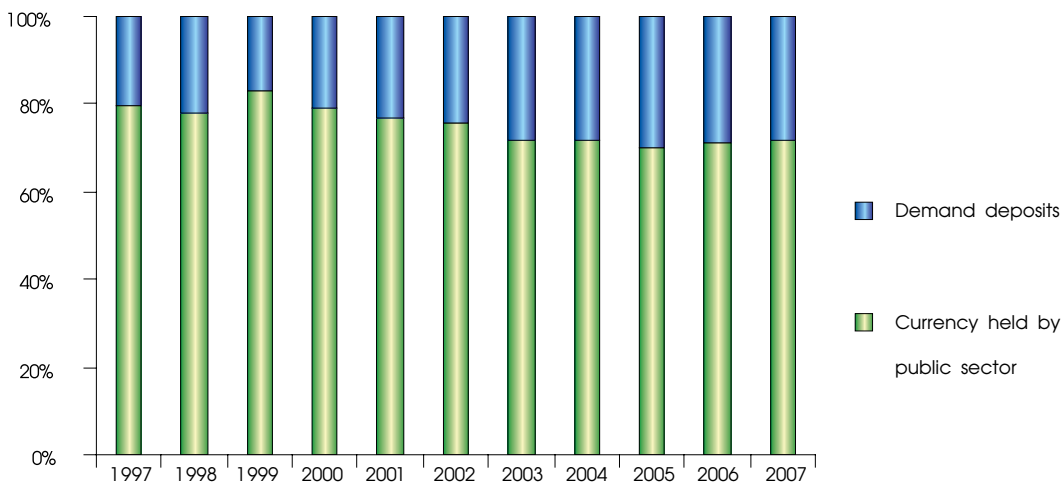
⁷ Currency held by the public refers to the amount of cash that businesses and household sector have in hand

3 Data and Statistics in Payment Systems

44

Furthermore, when considering cash usage trends from the proportion of currency to narrow money which indicates the direction of the use of cash in relation to other payment means via demand deposits (Figure 8), one will find that the proportion of currency to demand deposits has remained stable at 70-72 percent since 2003.

Figure 8 : Composition of Narrow Money

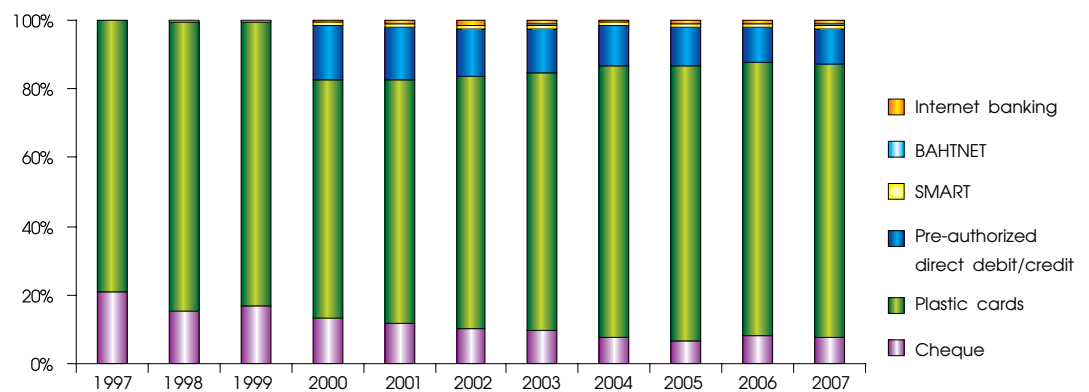


Source : Bank of Thailand

The main channels and mediums of payment in Thailand with high significant volume and value consisted of high-value funds transfer system or BAHTNET and retail funds transfer system such as cheque clearing system, System for Managing Automated Retail Funds Transfer (SMART⁸), Pre-authorized Direct Credit/Direct Debit), plastic cards, i.e. ATM cards, debit and credit cards, as well as Internet banking.

⁸ SMART ceased to be operated by the Bank of Thailand from 15 October 2007. The service has since been provided by National ITMX Co., Ltd. under the system of "Bulk Payment Credit – Next Day".

Figure 9 : Comparison of Various Payment Instruments in Volume of Transaction

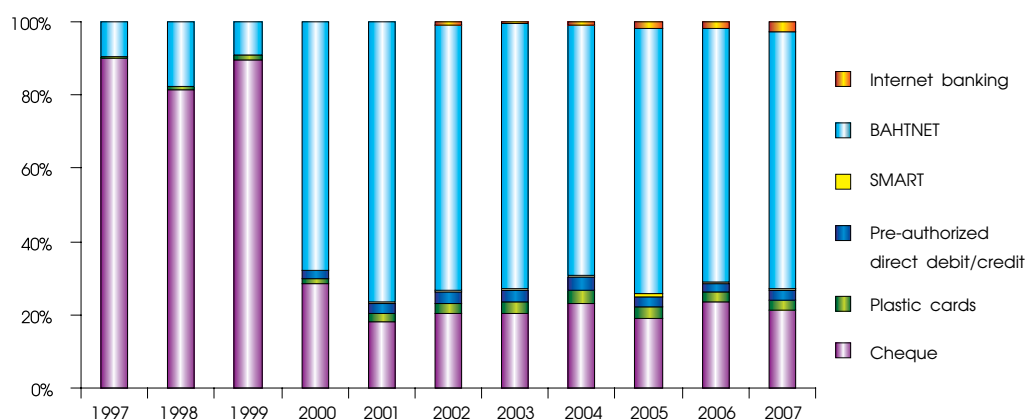


Source : Bank of Thailand

The volume and value of payment transactions increased across all types of payment systems and channels. In volume of transaction (Figure 9), plastic cards continued to be the most popular medium, representing 79.8 percent of overall payment volume. Pre-authorized direct debits/credits and cheques accounted for 10.5 percent and 7.4 percent respectively of the total. Of all such plastic card transactions, cash withdrawals/cash advances made up 67.7 percent of the total volume.

3 Data and Statistics in Payment Systems

Figure 10 : Comparison of Various Payment Instruments in Value



Source : Bank of Thailand

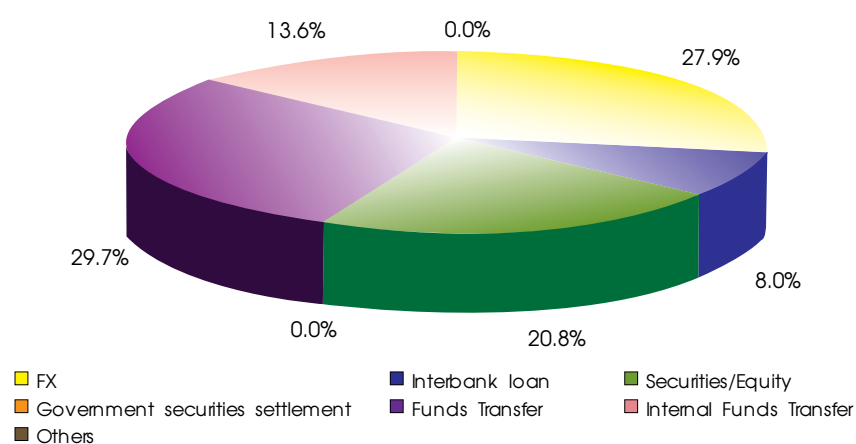
In terms of transactional value (Figure 10), BAHTNET transfers constituted the highest proportion or 70.3 percent of the total. Cheque payments represented the second largest share, i.e. 21.4 percent. Almost all mediums of payments increase in value, with the exception of SMART which recorded a 1.1 percent fall in value from 2006

3.2.2 High-Value Funds Transfer System

The system of BAHTNET (Bank of Thailand Automated High-Value Transfer Network) can be classified according to business category as follows: inter-bank funds transfer, foreign exchange (FX) trading, interbank loans, internal funds transfer, securities/equity trading, public-sector securities settlement and other transactions

In 2007, the highest transactional value of BAHTNET transfers was interbank funds transfer, recorded 29.7 percent of all BAHTNET transfers; followed by FX trading, which accounted for 27.9 percent; securities/equity trading, 20.8 percent; internal funds transfer, 13.6 percent; interbank loan, 8 percent; and others, 0.02 percent (Figure 11).

Figure 11 : Value of BAHTNET Transfers by Business Type, 2007



Source : Bank of Thailand

The number of BAHTNET transactions, in 2007, reaching 1,765,566 transactions, equivalent to an increase of 2.5 percent from the previous year's volume of 1,722,559 transactions. The aggregate value was 182.4 trillion baht, rose by 26.7 percent from 143.9 trillion baht in the previous year.

The funds transfer can be detailed and categorized below.

- 1) **Interbank funds transfer** numbered 151,038 transactions and amounted to 96.4 trillion baht, with year-on-year increases in volume and value of 7.4 percent and 37.9 percent respectively. The growth was due partly to the imposition of reserve requirements on short-term capital inow and the revised regulations concerning non-resident baht account, coupled with a stronger baht against the US dollar. As a result, interbank foreign currency transfers went up in terms of volume and value by 10.28 percent and 36.43 percent respectively year over year.

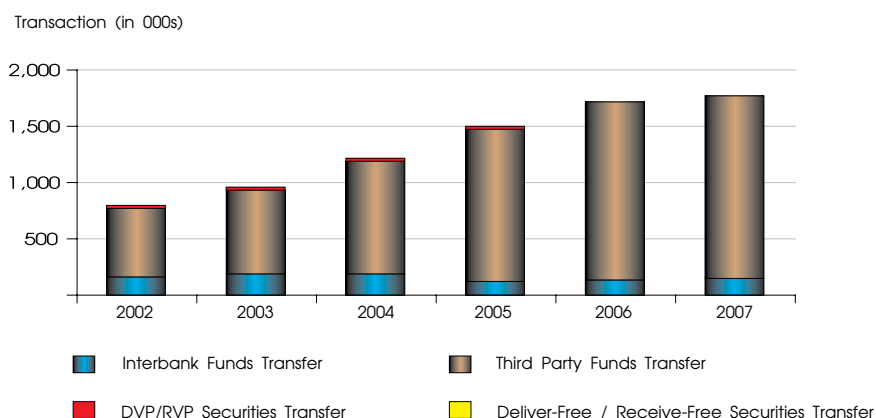
3 Data and Statistics in Payment Systems

48

As regards interbank settlement, there were a total of 2,496 transactions, rising by 0.7 percent. While, the settlement value was 7.0 trillion baht, increase by 10.6 percent from the preceding year.

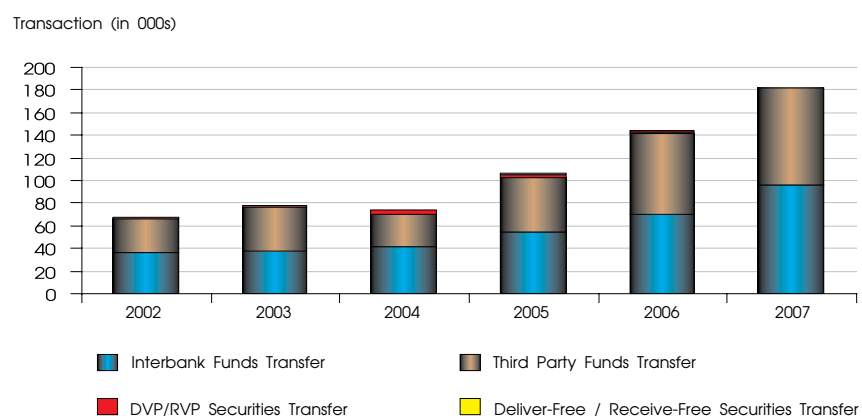
2) **Third party funds transfer** reaching 1,614,528 transactions, rose by 2.8 percent, whereas value totalled 86.0 trillion baht, increasing by 20.7 percent from the previous year. The volume and value of third party transfer increased in line with the growth of the primary market and the secondary market of debt securities which expanded 102.99 percent and 146.23 percent from the previous year, respectively. Consequently, government security trading grew in both volume and value terms by 115.21 percent and 354.12 percent respectively over 2006. Although the measures on short-term inow reserve requirements and non-resident baht account regulations have led to a decline in non-residents' transactions, foreign currency transfers by residents went up in volume and value by 192.5 percent and 178.5 percent respectively year on year.

Figure 12 : Volume of BAHTNET Funds and Securities Transfers



Source : Bank of Thailand

Figure 13 : Value of BAHTNET Funds and Securities Transfers



Source : Bank of Thailand

3.2.3 Cheque Clearing System

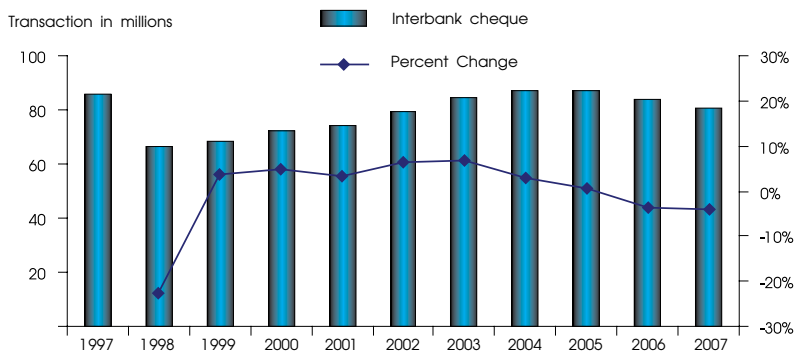
Interbank Cheque Clearing System

Interbank cheque clearing systems comprise Electronic Cheque Clearing System (ECS), Provincial Cheque Clearing System and the inter-provincial cheque clearing system or Bill for Collection (B/C).

On average, around 329,517 cheques per day were used in 2007 with average value of 132.8 billion baht approximately. The average interbank cheque usage per capita dropped slightly to 1.28 cheques per year. The volume of interbank cheques decreased from 84.1 million in 2006 to 80.7 million in 2007 (Figure 14).

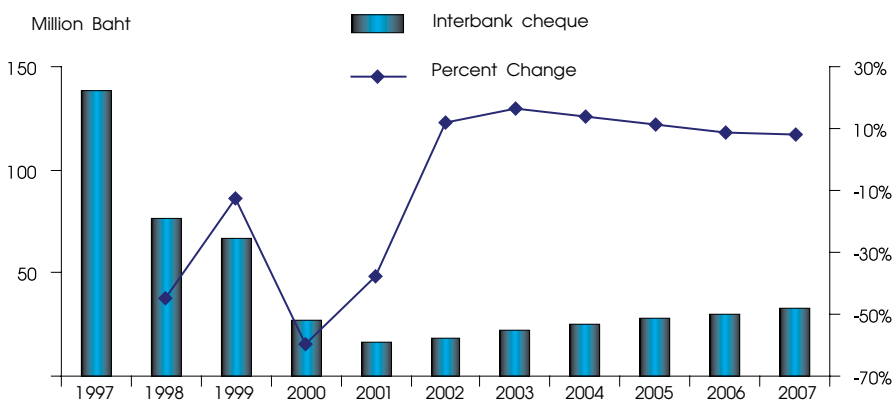
3 Data and Statistics in Payment Systems

Figure 14 : Volume of Interbank Cheques



Source : Bank of Thailand

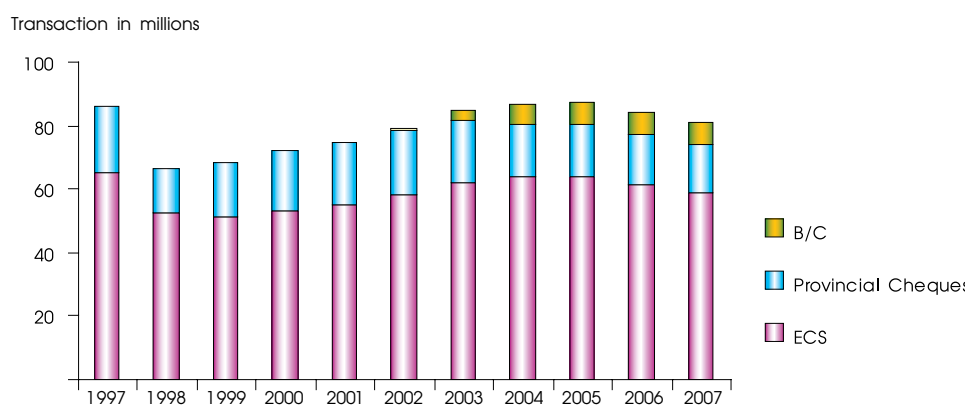
Figure 15 : Value of Interbank Cheques



Source : Bank of Thailand

The value of interbank cheques in 2007 increased at a declining rate of 8.0 percent from 8.6 percent in 2006 to 32,537 billion baht in total (Figure 15).

Figure 16 : Volume of Interbank Cheques by Clearing System



Source : Bank of Thailand

The volume and value of ECS cheques or cheques processed within Greater Bangkok areas in 2007 remained comparable to the previous year, i.e. 73.1 percent and 90.7 percent respectively of transactions. Cheques processed through Provincial Cheque Clearing System had the second largest proportion of 18.6 percent and 8.2 percent in volume and value respectively, while B/C or inter-provincial cheques made up only 8.2 percent and 1.1 percent of all cheques in terms of volume and value.

In-house Cheque Clearing System

The BOT has since 2006 started to collect in-house cheque data from commercial banks and some specialized financial institutions. The data includes the volume and value of intrabank cheques cleared within Greater Bangkok areas and other provinces as well as inter-provincial cheque collection.

In 2007 the volume of in-house cheques was 49.5 million, or 38.0 percent of the total cheques. The value of these cheques was 23,099.4 billion baht or 41.5 percent of the aggregate value of all cheques.

3 Data and Statistics in Payment Systems

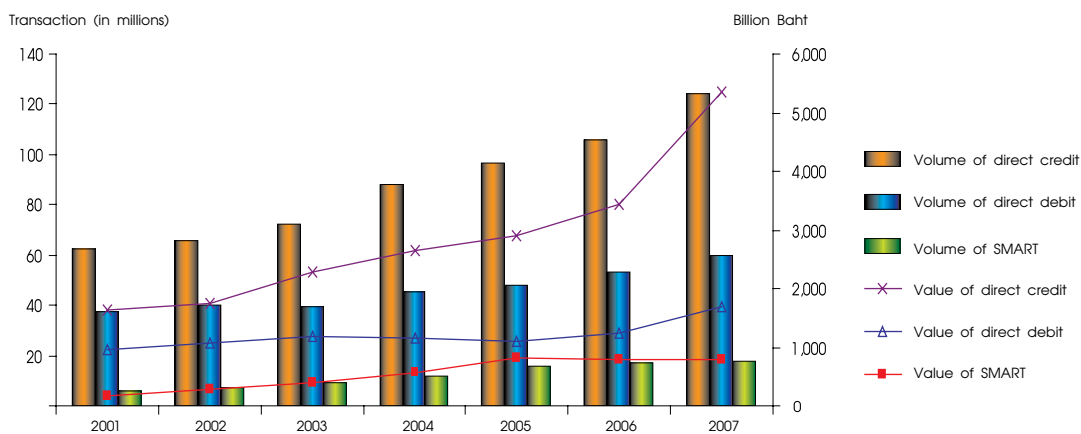
52

Average cheque usage for the year (both interbank and intrabank) was 2.07 cheques per capita per annum.

3.2.4 Pre-Authorized Direct Debit/Direct Credit

Pre-authorized payment system is a system designed for retail funds transfers of fixed, regular payments and/or multiple transfers transactions arranged under a standing order with the bank. The system consists of a) in-house pre-authorized transfer set up with commercial banks which includes direct credit for transfers of salaries, wages, dividends, tax refunds, and direct debit transactions such as payment of utility bills, insurance premiums, credit card payments, etc; and b) interbank pre-authorized transfer or SMART which was maintained by BOT and provided only direct credit services.

Figure 17 : Volume and Value of Pre-Authorized Funds Transfers

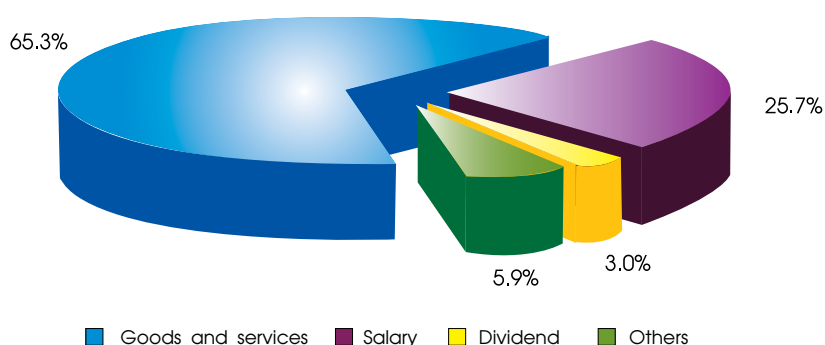


Source : Bank of Thailand

The total value of pre-authorized funds transfers in 2007 was approximately 7.8 trillion baht, a year-on-year increase of 43.2 percent, with an aggregate volume of 201.8 million transactions or 14.6 percent growth. Direct credit constituted the largest category in terms of volume and value, which are

61.6 percent and 68.2 percent respectively. It was followed by direct debit which represented 29.7 percent of overall volume and 21.7 percent of total value, while SMART accounted for 8.7 percent and 10.1 percent respectively in volume and value terms.

Figure 18 : Proportion of Value of Funds Transfer via SMART



Source : Bank of Thailand

Interbank retail funds transfers via SMART in 2007 totalled 17.6 million transactions, a 2.9 percent rise over 2006 and were worth 792.9 billion baht overall, a 1.1 percent decrease from the previous year. In quantitative terms, salary and wage payments accounted for the largest proportion of SMART transactions or 45.9 percent; followed by payments for goods and services which represented 38.6 percent of all transactions. In terms of value, however, goods and services made up the highest share of 65.3 percent; followed by salary and wage transfers at 25.7 percent; others, 5.9 percent; and dividends, 3.0 percent.

3 Data and Statistics in Payment Systems

54

Direct credit transactions totalled 124.2 million in volume and 5,350.7 billion baht in value, up by 17.5 percent and 55.7 percent respectively over the previous year. The majority of these transactions were salary and wage transfers which accounted for the highest proportion of 47.2 percent and 80.4 percent respectively in value and volume terms.

With regard to direct debit transfers, there were a total of 60.0 million transactions, an increase of 12.6 percent over 2006. The transactions amounted to 1,698.6 billion baht overall, an annual growth rate of 37.2 percent. Almost every transaction was goods and services which made up 91.2 percent and 96.4 percent in value and volume respectively.

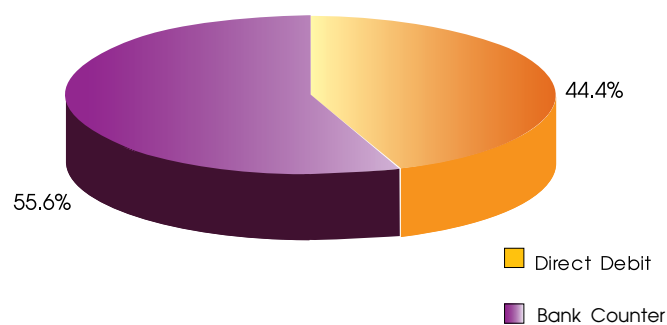
3.2.5 Bank Counter Services

Bill Payment

In 2007, bill payment for utilities services and other goods and services over the bank counters, continued to be the preferred mode of payment than direct debit services also offered by banks. There were as high as 72.5 million transactions worth 5,181.9 billion Baht overall, compared with the payments totalling 57.8 million transactions worth 1,549.9 billion Baht made by direct debit. By comparison with 2006, these bill payments at bank counter grew in volume and value by 8.3 percent and 32.6 percent respectively.

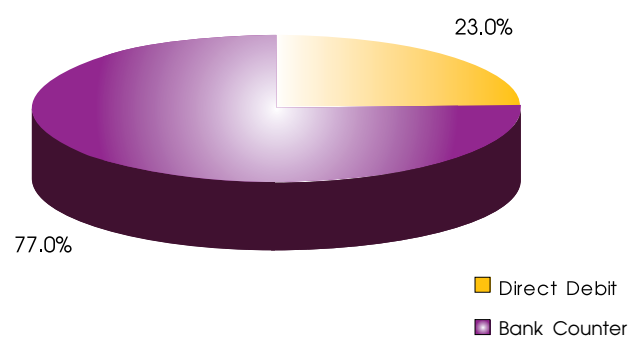
Moreover, cash was still the most popular medium of bill payments and made up 95.4% of the total volume of transactions, compared with only 2.6% accounted for by cheque. However, in terms of value, cheque continued to be the medium of payment with the highest proportion of 43.3% in comparison with cash which represented 26.3% of the aggregate value of all transactions.

Figure 19 : Volume of Bill Payments via Direct Debit and Bank Counter, 2007



Source : Bank of Thailand

Figure 20 : Value of Bill Payments via Direct Debit and Bank Counter, 2007



Source : Bank of Thailand

Interbank Online Retail Funds Transfer (ORFT)

Online Retail Funds Transfer (ORFT) or ATM-based interbank fund transfer service at bank counter has continued to gain wide acceptance since its launch on 15 December 2005. In 2007 there were a total of 5.3 million transactions with overall value of 78.0 billion Baht, representing year-on-year increases of 139.4 percent and 233.1 percent respectively.

3 Data and Statistics in Payment Systems

56

3.2.6 Plastic Cards

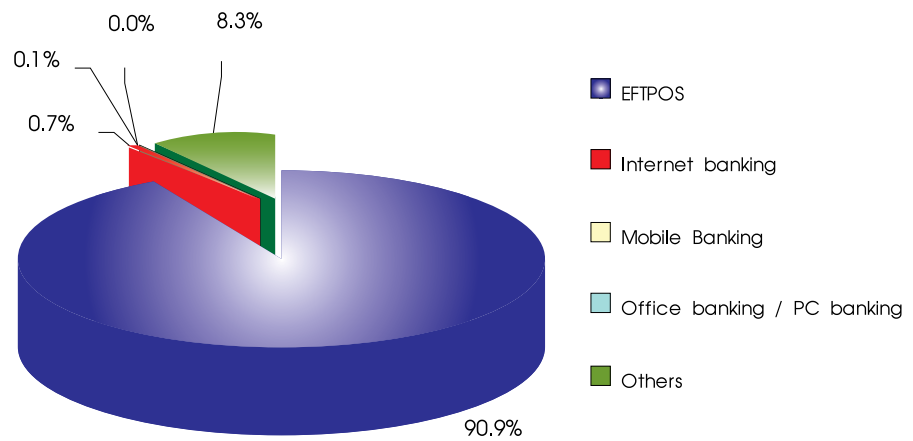
Plastic cards include credit cards, debit cards and ATM cards. It is expected that during the next 4-5 years plastic cards, particularly debit and credit cards, will continue to play an important part in progressively replacing cash as the means of payment and funds transfer. The use of debit card is likely to have stronger growth than credit card owing to a larger cardholder base and due to the minimum income requirements set for all credit-card applications. The usage of ATM cards is predicted to trend downwards, since there have been efforts by issuing banks to increasingly persuade customers to shift away from ATM card towards debit card.

Credit Card

Credit card spending in 2007 amounted to approximately 840.0 billion Baht overall, compared with 755.0 billion Baht in the previous year. Nevertheless, the growth of credit card use started to slow to 11.3 percent, down from 20.7 percent in 2006. The deceleration reflected how credit card holders became more cautious about their spending due to the soaring cost of living.

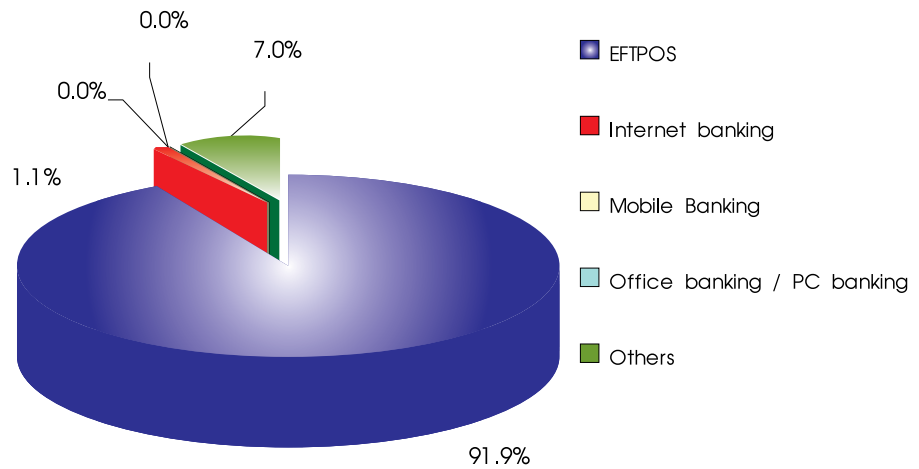
EFTPOS continued to be most popular with cardholders in terms of transactional volume and amount, accounting for 90.9 percent and 91.9 percent respectively of the total card usage. Internet banking and mobile banking still had a far smaller proportion of overall transactions, in both volume and value terms.

Figure 21 : Volume of Credit Card Transactions by Channel, 2007



Source : Bank of Thailand

Figure 22 : Value of Credit Card Transactions by Channel, 2007



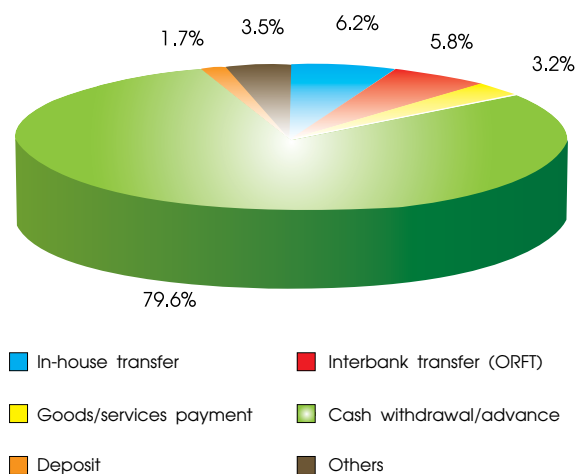
Source : Bank of Thailand

3 Data and Statistics in Payment Systems

Debit Card

Debit cards were still, used mainly to withdraw cash. The use of debit cards for funds transfer and making payment accounted for a relatively low proportion of all debit card transactions. This can be seen from the volume of debit card usage in 2007: of the overall transactions of 538.29 million, 79.6 percent were for cash withdrawals; in-house transfers, interbank transfers and bill payments made up only 6.2 percent, 5.8 percent and 3.2 percent respectively. Such proportions were not much different from those recorded for 2006.

Figure 23 : Volume of Debit Card Transactions, 2007



Source : Bank of Thailand

ATM Card

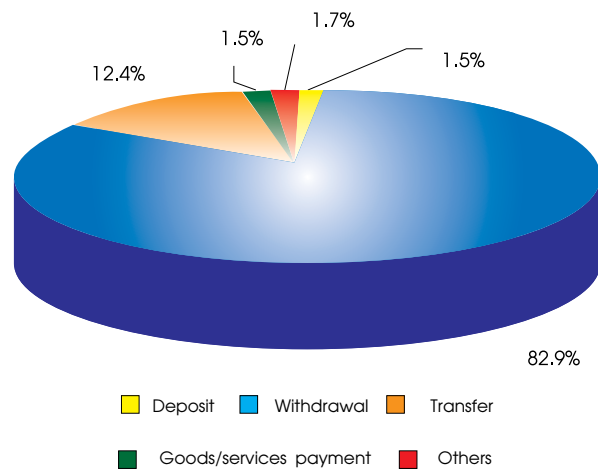
The volume of ATM card transactions⁹ in 2007 went down by 9.7 percent from 632.7 million in 2006 to 571.3 million, but on the whole a more efficient direction of card usage was seen during the year. Those transactions that dropped in volume terms were generally cash withdrawals with a year-on-year decrease of 14.5 percent, whereas ATM transfers and deposits rose considerably by 37.0 percent and 15.5 percent respectively. The figures demonstrate consumers' changing behaviour and increasing acceptance

⁹ Refers only to ATM transactions of commercial banks, excluding those of specialized financial institutions.

of ATM-based services which have helped lessen their need to travel to the bank.

The above trends corresponded with the overall value of ATM transactions which fell by 9 percent from 2,809.0 billion Baht in 2006 to 2,549.0 billion Baht, with cash withdrawals registering a marked decrease of 16.0 percent.

Figure 24 : Composition of ATM Card Transactions, 2007



Source : Bank of Thailand

3 Data and Statistics in Payment Systems

60

	Volume		Value	
	Transaction (In millions)	percent	Billion Baht	percent
ATM cards				
- Withdrawals	474	82.9	1,840	72.2
- Transfers	71	12.4	594	23.3
- Payments for goods and services	8	1.5	33	1.3
- Deposits	8	1.5	80	3.1
- Others	10	1.7	2	0.1
Total	571	100.0	2,549	100.0
Debit cards				
- Withdrawals	429	79.6	1,971	61.5
- Transfers	64	12.0	1,080	33.7
- Payments for goods and services	17	3.2	47	1.4
- Deposits	9	1.7	104	3.2
- Others	19	3.5	3	0.1
Total	538	100.0	3,205	100.0

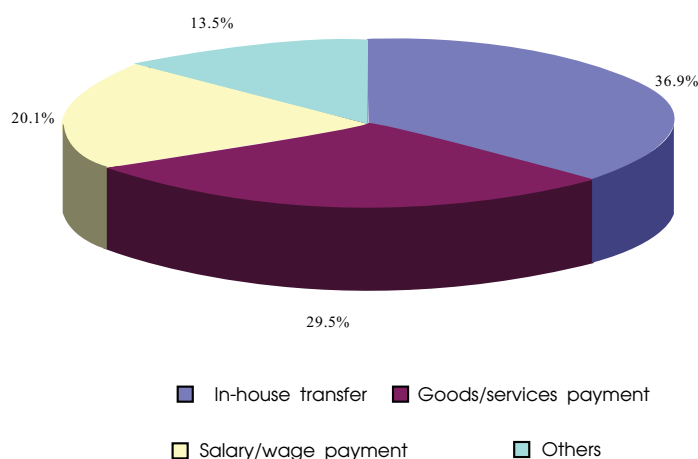
3.2.7 Internet Banking

Internet banking services have been widely adopted by banks' clientele and expanded rapidly in line with customer confidence in the greater reliability of their safety system. Online banking users in 2007 numbered 3,135,502 in total, up by 46.6 percent from 2,139,325 users in the previous year, while overall value of the services increased dramatically by 95.8 percent from 3,584.0 billion baht in 2006 to 7,017.5 billion baht in 2007.

The use of Internet banking during the year comprised the following categories of transaction: (1) in-house funds transfer accounting for 36.9

percent; (2) payment for goods and services declining from the highest share of 32.5 percent in 2006 to 29.5 percent; (3) salary and wage payment making up 20.1 percent; and (4) other transactions at 13.2 percent.

Figure 25 : Volume of Internet Banking Transactions, 2007



Source : Bank of Thailand

3.2.8 Electronic Money

Electronic cash/money services are currently provided in two different formats, i.e. stored-value card and online stored-value account. A total of seven firms and banks have been licensed to operate the services: Thai Smart Card Company Limited, Payment Solution Company Limited, True Money Company Limited, PaySbuy Company Limited, Advanced mPay Company Limited, Advanced Magic Card Company Limited and Siam Commercial Bank Public Company Limited.

Amid heightening competition throughout 2007, e-money providers developed new distribution channels while promoting and publicizing the use of electronic services through cyber media. As a result, the volume of transactions jumped more than twofold from 23.6 million in 2006 to 75.6 million.

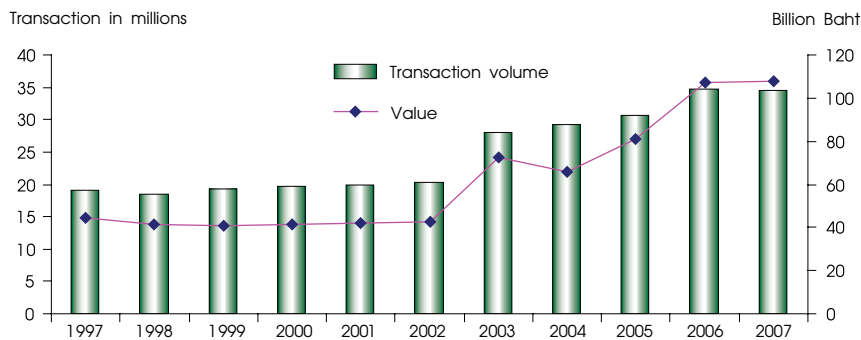
3 Data and Statistics in Payment Systems

62

Spending value also shot up in line with the rocketing volume to 8,660.9 million baht, up by 56.5 percent from 5,532.4 million baht in the previous year. At end of 2007, the number of digital-cash card/accounts totalled 3.7 million¹⁰.

3.3 Postal Transfer and Payment

Figure 26 : Volume and Value of Funds Transfer via Pay at Post



Source : Thailand Post Company Limited

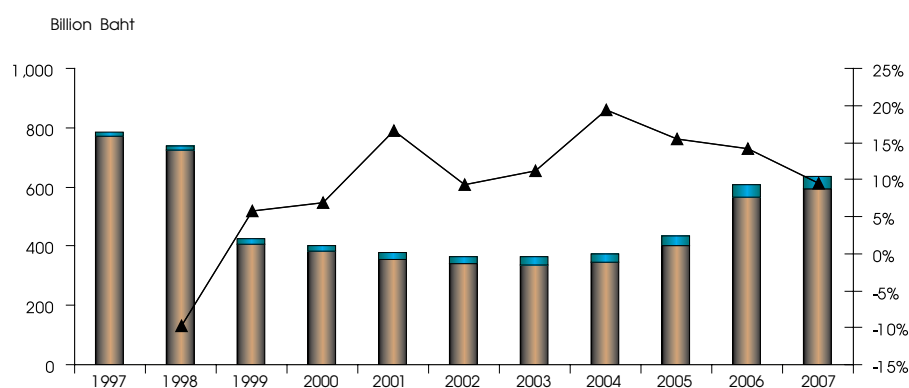
Mounting competition among providers of transfer/bill payment services caused the payment-related transactions of Thailand Post Co., Ltd. to remain comparable to 2006 levels. In 2007 transfer and payment transactions via postal system numbered 34.5 million in total, a decrease of 0.7 percent from 2006. The aggregate value of these transactions rose year on year by 0.8 percent to 107.9 billion baht.

Through technological developments, Thailand Post was able to expand its provision of speedy and convenient services, such as online money order and express money transfer via Western Union for which the post offices are an agent. As a result, the use of postal draft and international money order, which serves a similar purpose, has declined in volume.

¹⁰ The volume and value of transactions as well as the number of cards/accounts given above represent only those electronic money services which can be used to pay for goods or services instead of cash for an unlimited amount and number of times, and where the cards/accounts can be topped up.

3.4 Revenue from Payment Services

Figure 27 : Revenue from Payment Services



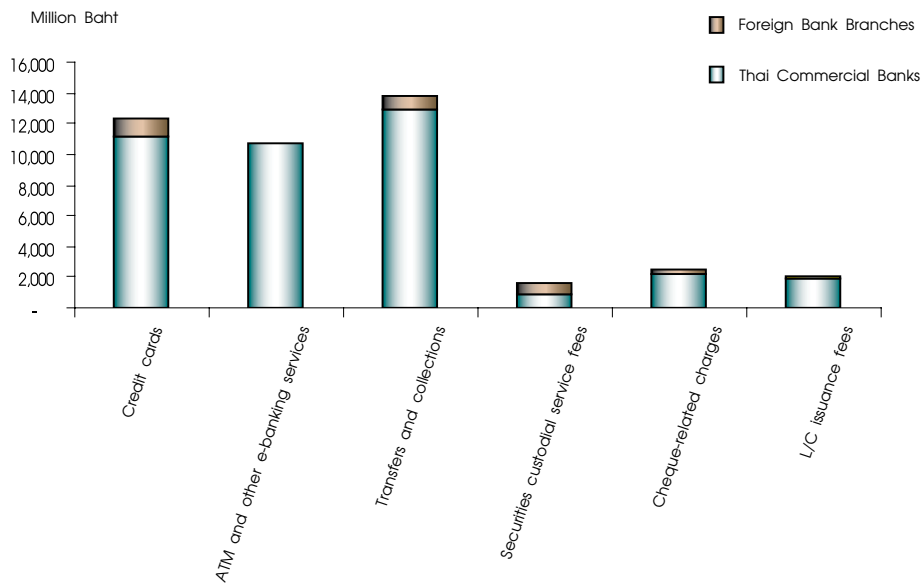
Source : Bank of Thailand

Commercial banks' earnings from payment services grew year on year by 9.6 percent to 43.0 billion baht (Figure 27). Income of domestic banks was largely generated from transfers and collections, credit cards and ATM/e-banking services which accounted for 32.6 percent, 28.1 percent and 26.9 percent respectively. The majority of foreign bank branches' revenue was from credit cards, transfers and collections and securities custodial service, which constituted 34.4 percent, 24.5 percent and 23.9 percent respectively (Figure 28). In this regard, non-bank institutions continued to be main competitors in the payment services business.

3 Data and Statistics in Payment Systems

64

Figure 28 : Categorized Revenue from Payment Services in 2007



Source : Bank of Thailand

4

Abbreviations

APN	Asian Payment Network Forum
ATM	Automated Teller Machine
B/C	Bill for Collection
BAHTNET	Bank of Thailand Automated High-value Transfer NETWORK
BIS	Bank for International Settlements
BOT	Bank of Thailand
CPSIPS	Core Principles for Systemically Important Payment Systems
ECS	Electronic Cheque Clearing System
EFTPOS	Electronic Funds Transfer at the Point of Sale
EMEAP	The Executives' Meeting of East Asia-Pacific Central Banks
e-Money	Electronic money
FSAP	Financial Sector Assessment Program
GDP	Gross Domestic Product
ICS	Imaged Cheque Clearing System
ILF	Intraday Liquidity Facilities
IMF	International Monetary Fund
ITMX	Interbank Transaction Management and Exchange
MFT	Multilateral Funds Transfer
MNCs	Multinational Corporations
NECTEC	National Electronics and Computer Technology Center
NITMX	National ITMX
ORFT	Online Retail Funds Transfer
OTP	Office of Transport and Traffic Policy and Planning
PSC	Payment Systems Committee
PvP	Payment versus Payment
RFID	Radio Frequency Identification
ROSCs	Reports on the Observance of Standards and Codes
RSI	Regional Settlement Intermediary
SMART	System for Managing Automated Retail Funds Transfer
SRS	Securities Requirement for Settlement
S.W.I.F.T.	Society for Worldwide Interbank Financial Telecommunication

4 Abbreviations

66

TSD	Thailand Securities Depository Co., Ltd.
WGPSS	Working Group on Payment and Settlement Systems

5

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6

Statistical Tables

68	Table 1:	Basic statistical data
	Table 2:	Technological infrastructure
	Table 3:	Narrow Money (at year-end, million baht)
	Table 4:	Settlement media used by non-banks (at year-end, billion baht)
	Table 5:	Settlement media used by banks (at year-end, billion baht)
	Table 6:	Indicators of the use of various cashless payment instruments. Volume of transactions (in thousands)
	Table 7:	Indicators of the use of various cashless payment instruments. Value of transactions (billion baht)
	Table 8:	Notes and coins (at year-end, million baht)
	Table 9:	Institutional infrastructure
	Table 10:	Payment instructions handled by selected interbank settlement systems. Volume of transactions (in thousands)
	Table 11:	Payment instructions handled by selected interbank settlement systems. Value of transactions (billion baht)
	Table 12:	Securities transfer instructions handled by securities settlement systems. Volume of transactions (in millions)
	Table 13:	Securities transfer instructions handled by securities settlement systems. Value of transactions (billion baht)
	Table 14:	Number of participants in selected payment and settlement systems
	Table 15:	Number of ATMs
	Table 16:	Number of EFTPOS terminals
	Table 17:	Number of payment cards
	Table 18:	Use of postal payment instruments. Volume of transactions (in millions)
	Table 19:	Use of postal payment instruments. Value of transactions (billion baht)
	Table 20:	Sources of payment revenues of Thai commercial banks (million baht)
	Table 21:	Sources of payment revenues of foreign bank branches (million baht)
	Table 22:	Daily averages of BOT payment services. Volume of transactions (transactions)
	Table 23:	Daily averages of BOT payment services. Value of transactions (billion baht)
	Table 24:	Peak day figures of BOT payment services. Volume of transactions (transactions)

- Table 25: Peak day figures of BOT payment services. Value of transactions (billion baht)
- Table 26: Use of credit cards and debit cards via EFTPOS (Monthly average per card, baht)
- Table 27: Cash withdrawal via ATM (Monthly average per card, baht)
- Table 28: Use of mobile banking
- Table 29: Use of internet banking
- Table 30: Use of ORFT via ATM and counter. Volume of transactions (in thousands)
- Table 31: Use of ORFT via ATM and counter. Value of transactions (billion baht)
- Table 32: Bill payment at bank counter. Volume of transactions (in thousands)
- Table 33: Bill payment at bank counter. Value of transactions (billion baht)
- Table 34: Use of e-Money
- Table 35: Fraud through specific payment channels and payment instruments (million baht)

TABLE 1 : BASIC STATISTICAL DATA

	2002	2003	2004	2005	2006	2007 ^P
Population (millions) ¹	62.80	63.08	61.97	62.42	62.83	63.04
GDP current price (billion baht) ²	5,450.6	5,917.4	6,489.5	7,095.6	7,830.3	8,485.2
GDP per capita (baht)	86,793.68	93,807.86	104,719.64	113,675.41	124,629.80	124,629.80
Exchange rate vis-a-vis US\$ (at year-end)	43.28	41.50	39.20	41.17	36.04	33.75

Sources: Bank of Thailand, Department of Provincial Administration, National Economic & Social Development Board

¹ Department of Provincial Administration adjusted figures of year 2004

² National Economic & Social Development Board adjusted figures from year 2003-2005

^P Preliminary Data

TABLE 2 : TECHNOLOGICAL INFRASTRUCTURE

	2002	2003	2004	2005	2006	2007
Total fixed network telephone subscribers (millions)	6.56	6.61	6.79	7.00	7.04	7.02
Total mobile telephone subscribers (millions)	17.41	22.38	27.37	32.00	41.30	51.60
Postpaid	4.51	4.35	4.99	5.25	6.32	5.60
Prepaid	12.90	18.03	22.38	26.75	34.98	46.00
Total Internet users (millions)	4.80	6.03	6.97	9.91	11.41	13.42
Penetration rates						
Fixed network telephone (%)	10.45	10.48	10.96	11.21	11.21	11.14
Mobile telephone (%)	27.72	35.48	44.17	51.27	65.73	81.86
Internet (%)	7.64	9.56	11.25	15.87	18.17	21.28

Sources: CAT Telecom Public Company Limited, TOT Public Company Limited, National Electronics and Computer Technology Center

TABLE 3 : NARROW MONEY (AT YEAR-END, BILLION BAHT)

	2002	2003	2004	2005	2006	2007 ^P
Currency	574.12	645.43	740.81	780.65	805.25	877.16
Held by business and household sector	495.53	539.04	597.28	630.84	653.02	720.34
Held by commercial banks	72.94	98.47	126.99	132.65	135.11	140.37
Held by finance companies	0.01	0.01	0.01	0.00	0.00	0.00
Held by specialized banks	5.64	7.91	16.54	17.16	17.13	16.45
Demand deposits	160.77	213.72	236.31	268.07	263.23	283.70
Demand deposits at Bank of Thailand	4.74	2.33	6.86	3.30	3.67	3.85
Demand deposits at commercial banks	153.46	207.98	225.53	255.57	254.88	275.01
Demand deposits at specialized banks	2.58	3.41	3.92	9.20	4.67	4.85
Narrow Money	656.31	752.75	833.59	898.91	916.24	1,004.04
Currency held by business and household sector as % of Narrow money	76%	72%	72%	70%	71%	72%
Demand deposits held by business and household sector as % of Narrow money	24%	28%	28%	30%	29%	28%

Source: Bank of Thailand

¹ Currency in circulation and demand deposits at commercial banks and specialized banks

^P Preliminary data

TABLE 4 : SETTLEMENT MEDIA USED BY NON-BANKS (AT YEAR-END, BILLION BAHT)

	2002	2003	2004	2005	2006	2007 ^P
Banknotes and coins ¹	495.53	539.04	597.28	630.84	653.02	720.34
Demand deposits	160.77	213.72	236.31	268.07	263.23	283.70
Narrow money ²	656.31	752.75	833.59	898.91	916.24	1,004.04
Broad money ³	6,488	6,886	7,281	7,737	8,219	8,317

Source: Bank of Thailand

¹ Banknotes outside depository corporations and coins issued by central government

² Currency in circulation and demand deposits at commercial banks and specialized banks

³ Currency in circulation and all kinds of deposits at commercial banks, specialized banks, and PN issued by financial companies

^P Preliminary data

TABLE 5 : SETTLEMENT MEDIA USED BY BANKS (AT YEAR-END, BILLION BAHT)

	2002	2003	2004	2005	2006	2007
Balances held at central bank	48	46	46	57	57	52
Required reserves	315	331	347	375	405	408
Free reserves	1,117	1,123	822	648	743	921
Transferable deposits at other banks	37	4	4	6	5	7
Memorandum item:						
Institutions borrowing from central bank	19	20	63	113	80	77

Source: Bank of Thailand

TABLE 6 : INDICATORS OF THE USE OF VARIOUS CASHLESS PAYMENT INSTRUMENTS. VOLUME OF TRANSACTIONS (IN THOUSANDS)

	2002	2003	2004	2005	2006	2007 ^P
Paper-based ¹ :	79,116	84,566	86,926	87,365	127,774	130,235
In-house cheque	nav.	nav.	nav.	nav.	43,681	49,503
Interbank cheque	79,116	84,566	86,926	87,365	84,093	80,732
Payment cards :	557,949	654,930	919,211	1,029,713	1,225,961	1,402,398
ATM card ²	557,949	654,930	506,791	535,298	646,304	592,653
Debit card ³	nav.	nav.	210,934	262,484	326,105	538,288
Credit card ⁴	nav.	nav.	201,486	231,931	253,551	271,457
Automated :	113,870	122,201	146,404	161,885	177,801	203,536
Direct credit ⁵	65,506	72,115	87,977	96,828	105,731	124,236
Direct debit ⁶	40,192	39,669	45,356	47,825	53,277	59,967
SMART	7,369	9,453	11,862	15,728	17,072	17,568
BAHTNET ⁷	803	964	1,209	1,504	1,721	1,766

Source: Bank of Thailand

¹ Since 2006, Data include in-house cheque from banks, however, some banks do not report in-house provincial and B/C cheque. Data from some Specialized Financial Institutions are not included.

² Include data from two Special Financial Institutions. Since 2004, debit card data was taken out from ATM card.

³ Data include cash withdrawal transactions from ATM

⁴ Data collected since 2004 and included bank cards/affinity cards, non-bank cards/afnity cards and foreign credit cards used in Thailand.

⁵ Intra-bank pre-authorized direct credit

⁶ Intra-bank pre-authorized direct debit

⁷ Since 2002, data include interbank funds transfer, third party funds transfer, DVP/RVP for securities and Multilateral Funds Transfer.

^P Preliminary data

**TABLE 7 : INDICATORS OF THE USE OF VARIOUS CASHLESS PAYMENT INSTRUMENTS.
 VALUE OF TRANSACTIONS (BILLION BAHT)**

	2002	2003	2004	2005	2006	2007 ^P
¹ Paper-based :	18,817	21,949	24,969	27,737	48,200	55,637
In-house cheque	nav.	nav.	nav.	nav.	18,080	23,099
Interbank cheque	18,817	21,949	24,969	27,737	30,121	32,537
Payment cards :	2,496	3,296	4,084	4,752	5,854	6,652
² ATM card	2,210	2,876	2,112	2,360	2,859	2,607
³ Debit card	nav.	nav.	1,436	1,766	2,240	3,205
⁴ Credit card	286	420	536	626	755	840
Automated :	70,205	81,983	77,829	110,457	148,778	190,210
⁵ Direct credit	1,756	2,271	2,636	2,907	3,436	5,351
⁶ Direct debit	1,080	1,186	1,146	1,111	1,238	1,699
SMART	274	385	553	806	802	793
⁷ BAHTNET	67,095	78,140	73,494	105,634	143,302	182,368

Source: Bank of Thailand

¹ Since 2006, Data include in-house cheque from banks, however, some banks do not report in-house provincial and B/C cheque. Data from some Specialized Financial Institutions are not included.

² Include data from two Special Financial Institutions. Since 2004, debit card data was taken out from ATM card.

³ Data include cash withdrawal transactions from ATM

⁴ Data collected since 2004 and included bank cards/affinity cards, non-bank cards/afnity cards and foreign credit cards used in Thailand.

⁵ Intra-bank pre-authorized direct credit

⁶ Intra-bank pre-authorized direct debit

⁷ Since 2002, data include interbank funds transfer, third party funds transfer, DVP/RVP for securities and Multilateral Funds Transfer.

^P Preliminary data

TABLE 8 : NOTES AND COINS (AT YEAR-END, MILLION BAHT)

	2002	2003	2004	2005	2006	2007
Notes and coins	583,093	661,785	742,269	781,698	806,379	878,332
Notes:	559,169	636,508	714,650	753,256	773,847	842,625
500000 baht	118	119	118	118	118	117
1000 baht	367,403	441,411	510,434	552,606	571,739	628,175
500 baht	108,987	105,452	105,639	99,488	94,712	98,497
100 baht	57,446	62,013	69,042	70,768	74,843	82,435
60 baht	439	447	452	458	1,154	1,157
50 baht	6,529	7,013	8,132	8,264	8,787	7,819
20 baht	14,648	16,536	17,350	18,087	19,038	20,741
10 baht	3,360	3,278	3,244	3,228	3,218	3,357
5 baht	123	123	123	123	123	196
1 baht	107	107	107	107	107	121
50 satang	9	9	9	9	9	9
Coins:	23,924	25,277	27,619	28,442	32,532	35,707

Source: Bank of Thailand

TABLE 9 : INSTITUTIONAL INFRASTRUCTURE¹

	2002	2003	2004	2005	2006	2007
Central Bank						
Number of Institutions	1	1	1	1	1	1
Number of Branches ²	4	4	3	3	3	3
Number of Accounts ³	1,153	1,123	1,169	992	366	287
Value of Accounts (million baht) ³	315,627	208,496	335,662	117,607	174,639	151,137
Thai Commercial Banks						
Number of Institutions	13	13	12	16	15	18
Number of Branches	3,650	3,730	3,925	4,228	4,701	5,070
Number of Accounts	48,810,007	49,854,304	57,538,837	62,416,191	68,154,739	73,108,528
Value of Accounts (million baht)	4,897,713	5,114,021	5,384,984	5,684,676	5,925,445	5,843,995
Specialized Financial Institutions:						
Government Savings Bank						
Number of Institutions	1	1	1	1	1	1
Number of Branches ⁴	586	587	588	588	591	598
Number of Accounts ⁴	28,824,269	30,029,258	30,214,359	27,078,642	25,884,639	16,448,269
Value of Accounts (million baht)	522,619	554,242	580,131	583,281	614,234	403,001

	2002	2003	2004	2005	2006	2007
Government Housing Bank						
Number of Institutions	1	1	1	1	1	1
Number of Branches	69	71	109	118	108	135
Number of Accounts	359,243	348,073	366,348	419,658	597,719	837,958
Value of Accounts (million baht)	192,969	239,371	331,299	351,019	447,527	409,482
Bank for Agriculture and Agricultural Cooperatives						
Number of Institutions	1	1	1	1	1	1
Number of Branches ⁵	515	532	595	596	880	931
Number of Accounts	10,588,203	11,014,933	12,131,460	13,376,015	18,989,152	19,257,527
Value of Accounts (million baht)	275,028	307,194	341,879	415,817	467,393	498,491
Export-Import Bank of Thailand						
Number of Institutions	1	1	1	1	1	1
Number of Branches	8	8	7	11	10	10
Number of Accounts	-	-	3,071	3,640	3,795	5,747
Value of Accounts (million baht)	-	-	3,928	8,862	6,216	4,655
Small and Medium Enterprise Development Bank of Thailand						
Number of Institutions	-	1	1	1	1	1
Number of Branches	-	64	80	80	98	99
Number of Accounts	-	nav.	nav.	9	40	52
Value of Accounts (million baht)	-	nav.	nav.	10,476	5,913	12,889
Islamic Bank of Thailand						
Number of Institutions	-	1	1	1	1	1
Number of Branches	-	6	9	27	27	26
Number of Accounts	-	9,574	25,553	86,003	nav.	101,544
Value of Accounts (million baht)	-	612	1,654	4,644	8,215	12,964
Foreign Bank Branches						
Number of Institutions	18	18	18	17	17	16
Number of Branches	18	18	18	17	17	16
Number of Accounts	256,338	206,866	90,877	79,034	83,180	219,789
Value of Accounts (million baht)	275,133	312,518	361,147	558,619	595,896	673,490
Post Office						
Number of Institutions	1	1	1	1	1	1
Number of Branches	1,148	1,148	1,146	1,146	1,158	1,176
Number of Accounts	-	-	-	-	-	-
Value of Accounts (million baht)	-	-	-	-	-	-

Sources: Bank of Thailand and Thailand Post Co.,Ltd.

¹ Data collected since 2000

² Since 2004, Lampang office was merged with Chaing Mai office

³ Exclude regional offices

⁴ Data as of 30 November 2006

⁵ Upgrade Service Units to Sub Branches

TABLE 10 : PAYMENT INSTRUCTIONS HANDLED BY SELECTED INTERBANK SETTLEMENT SYSTEMS. VOLUME OF TRANSACTIONS (IN THOUSANDS)

	2002	2003	2004	2005	2006	2007
Paper-based:	79,116	84,566	86,926	87,365	84,093	80,732
ECS	58,139	62,020	63,845	64,065	61,445	59,026
Provincial Cheques	20,595	19,858	16,476	16,473	15,935	15,056
B/C ¹	382	2,688	6,605	6,827	6,714	6,649
Automated:	14,161	24,527	32,142	45,228	59,872	75,300
BAHTNET ²	803	964	1,209	1,504	1,721	1,766
SMART (Media Clearing)	7,369	9,453	11,862	15,728	17,072	17,568
ORFT-ATM (on-line retail funds transfer) ³	5,989	14,110	19,071	27,996	41,079	55,966

Sources: Bank of Thailand and National ITMX Co., Ltd.

¹ Inter-provincial cheques exchanged at the Electronic Clearing House

² Since 2002, data include interbank funds transfer, third party funds transfer, DVP/RVP for securities and Multilateral Funds Transfer.

³ Data collected since 2000

TABLE 11 : PAYMENT INSTRUCTIONS HANDLED BY SELECTED INTERBANK SETTLEMENT SYSTEMS. VALUE OF TRANSACTIONS (BILLION BAHT)

	2002	2003	2004	2005	2006	2007
Paper-based:	18,817	21,949	24,969	27,737	30,121	32,537
ECS	16,987	19,916	22,653	25,063	27,175	29,524
Provincial Cheques	1,814	1,923	2,039	2,371	2,617	2,667
B/C ¹	16	111	277	303	329	346
Automated:	67,407	78,612	74,161	106,626	144,374	183,509
BAHTNET ²	67,095	78,140	73,494	105,634	143,302	182,368
SMART (Media Clearing)	274	385	553	806	802	793
ORFT-ATM (on-line retail funds transfer) ³	38	87	114	187	270	349

Sources: Bank of Thailand and National ITMX Co., Ltd.

¹ Inter-provincial cheques exchanged at the Electronic Clearing House

² Since 2002, data include inter-bank funds transfer, third party funds transfer, DVP/RVP for securities and multilateral funds transfer.

³ Data collected since 2000

TABLE 12 : SECURITIES TRANSFER INSTRUCTIONS HANDLED BY SECURITIES SETTLEMENT SYSTEMS. VOLUME OF TRANSACTIONS (IN MILLIONS)

	2002	2003	2004	2005	2006	2007
Bond registry system:						
Equity securities	-	-	-	-	-	-
Government securities	neg.	neg.	neg.	neg.	0.01	0.01
Book-entry system:						
Equity securities	1.00	1.94	2.11	2.47	2.45	2.36
Government securities	neg.	neg.	0.05	0.08	0.06	0.05

Sources: Bank of Thailand and Thailand Securities Depository Co., Ltd.

TABLE 13 : SECURITIES TRANSFER INSTRUCTIONS HANDLED BY SECURITIES SETTLEMENT SYSTEMS. VALUE OF TRANSACTIONS (BILLION BAHT)

	2002	2003	2004	2005	2006	2007
Bond registry system:						
Equity securities	-	-	-	-	-	-
Government securities	69	9	8	8	35	23
Book-entry system:						
Equity securities	237	428	722	623	694	714
Government securities	2,091	3,053	4,558	6,167	10,666	27,002

Sources: Bank of Thailand and Thailand Securities Depository Co., Ltd.

TABLE 14 : NUMBER OF PARTICIPANTS IN SELECTED PAYMENT AND SETTLEMENT

	2002	2003	2004	2005	2006	2007
BAHTNET	65	72	69	68	65	67
ECS	36	37	37	38	40	40
Provincial Cheque Clearing	17	17	17	18	21	22
B/C ¹	-	35	35	37	39	39
SMART	27	28	27	26	29	33
Bond registry system:						
Equity securities	-	-	-	-	-	-
Government securities	157,358	142,586	200,000	235,380	247,700	296,867
Book-entry system:						
Equity securities	57	57	50	73	74	77
Government securities ²	1,202	1,307	3,200	5,124	79	77

Sources: Bank of Thailand and Thailand Securities Depository Co., Ltd.

¹ Inter-provincial cheques exchanged at the Electronic Clearing House

² Government securities depository services was transferred from Bank of Thailand to Thailand Securities Depository Co., Ltd. in 2006.

TABLE 15 : NUMBER OF ATMS

	2002	2003	2004	2005	2006	2007
Total	7,885	9,118	10,602	15,784	21,988	25,943
Bangkok	-	-	4,314	6,373	8,675	9,883
Central	-	-	3,381	5,059	6,951	8,818
Northeast	-	-	954	1,375	2,069	2,491
North	-	-	941	1,367	2,072	2,274
South	-	-	1,012	1,610	2,221	2,477

Sources: Bank of Thailand

TABLE 16 : NUMBER OF EFTPOS TERMINALS ¹

	2002 ^P	2003 ^P	2004 ^P	2005 ^P	2006 ^P	2007 ^P
Total	61,000	76,000	84,000	102,000	208,942	218,829

Source: Bank of Thailand

¹ Since 2006, data is collected from banks and some credit card companies.

^P Preliminary data

TABLE 17 : NUMBER OF PAYMENT CARDS

	2002	2003	2004	2005	2006	2007 ^P
Total	32,435,521	36,401,196	42,457,150	49,754,883	55,698,708	57,929,150
Credit card ¹	5,633,363	6,734,901	8,648,100	9,958,571	10,900,566	12,003,369
ATM card ²	26,802,158	29,666,295	25,384,027	28,752,512	30,845,358	22,632,173
Debit Card	nav.	nav.	8,425,023	11,043,800	13,952,784	23,293,608

Source: Bank of Thailand

¹ Since 2002, data include non-bank

² Some banks revised the data in 2004. Data include Government Saving Bank and Government Housing Bank.

^P Preliminary data

**TABLE 18 : USE OF POSTAL PAYMENT INSTRUMENTS.
 VOLUME OF TRANSACTIONS (IN MILLIONS)**

	2002	2003	2004	2005	2006	2007
Postal payments total	20.27	28.11	29.15	30.63	34.69	34.45
Domestic money order total ¹	18.06	26.26	27.97	29.66	33.77	33.83
Domestic postal order	2.16	1.80	1.12	0.93	0.86	0.58
Postcheque ²	0.00	-	-	-	-	-
International money order	0.06	0.05	0.06	0.04	0.03	0.02
Incoming	0.05	0.05	0.06	0.04	0.03	0.02
Outgoing	0.00	0.00	0.00	0.00	neg.	neg.

Source: Thailand Post Co.,Ltd

¹ Include domestic money order and Pay at Post

² Postcheque has been terminated since 2002

**TABLE 19 : USE OF POSTAL PAYMENT INSTRUMENTS.
VALUE OF TRANSACTIONS (BILLION BAHT)**

	2002	2003	2004	2005	2006	2007
Postal payments total	42.35	72.37	65.82	81.17	107.06	107.91
Domestic money order total ¹	40.77	70.77	64.37	80.19	105.61	106.71
Domestic postal order	0.63	0.58	0.29	0.21	0.19	0.14
Postcheque ²	0.01	-	-	-	-	-
International money order	0.94	1.02	1.16	0.77	0.63	0.53
Incoming	0.90	0.98	1.10	0.76	0.62	0.52
Outgoing	0.04	0.05	0.06	0.01	0.01	0.01

Source: Thailand Post Co.,Ltd.

¹ Include domestic money order and Pay at Post

² Postcheque has been terminated since 2002

**TABLE 20 : SOURCES OF PAYMENT REVENUES OF THAI COMMERCIAL BANKS
(MILLION BAHT)**

	2002	2003	2004	2005	2006	2007
Total	19,589	22,280	26,994	31,431	36,291	39,859
Credit card	6,489	6,606	7,246	8,007	9,792	11,202
ATM card and e-banking	5,209	6,376	7,593	9,107	9,976	10,710
Money transfer and collection	4,877	6,018	8,420	10,520	11,711	12,977
Securities custodian	313	348	414	548	756	828
Cheque-related fee	1,106	1,260	1,239	1,100	1,965	2,262
Letter of credit	1,595	1,672	2,082	2,149	2,091	1,880

Source: Bank of Thailand

TABLE 21 : SOURCES OF PAYMENT REVENUES OF FOREIGN BANK BRANCHES
(MILLION BAHT)

	2002	2003	2004	2005	2006	2007
Total	2,852	2,651	2,767	2,936	2,955	3,146
Credit card	1,076	557	633	717	873	1,083
ATM card and e-banking	110	185	92	60	59	59
Money transfer and collection	806	794	810	788	763	772
Securities custodian	593	745	865	808	732	753
Cheque-related fee	38	53	61	206	244	239
Letter of credit	229	317	306	357	284	240

Source: Bank of Thailand

TABLE 22 : DAILY AVERAGES OF BOT PAYMENT SERVICES.
VOLUME OF TRANSACTIONS (TRANSACTIONS)

	2002	2003	2004	2005	2006	2007
BAHTNET ¹	3,277	3,904	4,957	6,138	6,997	7,206
ECS	237,302	251,093	260,592	261,492	252,858	240,924
Provincial Cheque Clearing	83,993	80,396	67,212	67,236	65,574	61,453
B/C ²	nav.	10,882	26,959	27,865	27,630	27,141
SMART	30,051	38,272	48,415	64,198	70,255	71,704

Source: Bank of Thailand

¹ Since 2002, data include interbank funds transfer, third party funds transfer, DVP/RVP for securities and Multilateral Funds Transfer.

² Inter-provincial cheques exchanged at the Electronic Clearing House

**TABLE 23 : DAILY AVERAGES OF BOT PAYMENT SERVICES.
VALUE OF TRANSACTIONS (BILLION BAHT)**

	2002	2003	2004	2005	2006	2007
BAHTNET ¹	274	316	302	431	583	744
ECS	69	81	92	102	112	121
Provincial Cheque Clearing	7.4	7.8	8.3	9.7	10.8	10.9
B/C ²	nav.	0.5	1.1	1.2	1.4	1.4
SMART	1.1	1.6	2.3	3.3	3.3	3.2

Source: Bank of Thailand

¹ Since 2002, data include interbank funds transfer, third party funds transfer, DVP/RVP for securities and Multilateral Funds Transfer.

² Inter-provincial cheques exchanged at the Electronic Clearing House

**TABLE 24 : PEAK DAY FIGURES OF BOT PAYMENT SERVICES.
VOLUME OF TRANSACTIONS (TRANSACTIONS)**

	2002	2003	2004	2005	2006	2007
BAHTNET ¹	5,109	6,115	7,372	10,165	13,421	11,488
ECS	629,130	546,858	539,013	597,938	590,830	514,286
Provincial Cheque Clearing	229,252	227,501	124,743	144,682	141,274	129,731
B/C ²	nav.	120,104	127,845	128,748	124,162	120,434
SMART	155,623	193,870	226,030	234,684	300,353	322,497

Source: Bank of Thailand

¹ Since 2002, data include interbank funds transfer, third party funds transfer, DVP/RVP for securities and Multilateral Funds Transfer.

² Inter-provincial cheques exchanged at the Electronic Clearing House

**TABLE 25 : PEAK DAY FIGURES OF BOT PAYMENT SERVICES.
VALUE OF TRANSACTIONS (BILLION BAHT)**

	2002	2003	2004	2005	2006	2007
BAHTNET ¹	967.2	525.8	509.0	723.1	1,378.4	1,236.6
ECS	160.3	160.0	178.0	209.3	217.2	247.4
Provincial Cheque Clearing	14.8	14.6	14.2	16.4	18.3	20.3
B/C ²	nav.	3.7	4.1	4.6	4.7	4.9
SMART	8.0	9.5	10.1	16.6	25.5	14.6

Source: Bank of Thailand

¹ Since 2002, data include inter-bank funds transfer, third party funds transfer, DVP/RVP for securities and multilateral funds transfer.

² Inter-provincial cheques exchanged at the Electronic Clearing House

**TABLE 26 : USE OF CREDIT CARDS AND DEBIT CARDS VIA EFTPOS¹
(MONTHLY AVERAGE PER CARD, BAHT)**

	2002	2003	2004	2005	2006	2007 ^P
Credit card	nav.	4,065	3,203	3,248	3,263	3,331
Debit Card	nav.	nav.	nav.	nav.	73	73

Source: Bank of Thailand

¹ Domestic and oversea spending of Thai credit cards and Thai debit cards via EFTPOS.

^P Preliminary data.

TABLE 27 : CASH WITHDRAWAL VIA ATM (MONTHLY AVERAGE PER CARD, BAHT)

	2002	2003	2004	2005	2006	2007 ^P
ATM card	nav.	nav.	nav.	nav.	6,063	7,018
Debit Card	nav.	nav.	nav.	nav.	7,328	7,051

Source: Bank of Thailand

^P Preliminary data.

TABLE 28 : USE OF MOBILE BANKING¹

	2002	2003	2004	2005	2006	2007 ^P
No. of agreements	nav.	nav.	18,312	85,565	133,419	168,434
Volume of transactions	nav.	nav.	22,704	329,769	355,048	359,407
Value of transactions (million baht)	nav.	nav.	745	622	392	336

Source: Bank of Thailand

¹ Data collected since 2004

Since 2005, data include mobile banking transactions using credit cards, debit cards and account numbers. "

^P Preliminary data.

TABLE 29 : USE OF INTERNET BANKING¹

	2002	2003	2004	2005	2006	2007 ^P
No. of agreements	254,989	348,965	1,581,877	1,852,007	2,139,325	3,135,502
Volume of transactions ²	9,990,969	10,336,929	4,872,407	11,099,729	15,488,741	21,220,469
Value of transactions (billion baht)	730.5	638.0	1,139.2	2,722.4	3,584.0	4,896.5

Source: Bank of Thailand

¹ Data collected since 2000

² Since 2004, enquiry transactions were excluded

^P Preliminary data

TABLE 30 : USE OF ORFT VIA ATM AND COUNTER.
VOLUME OF TRANSACTIONS (IN THOUSANDS)

	2002	2003	2004	2005	2006	2007
Total ORFT	5,989	14,110	19,071	27,996	43,279	61,234
ATM	5,989	14,110	19,071	27,996	41,079	55,966
Counter ¹	nav.	nav.	nav.	nav.	2,200	5,267

Source: National ITMX Co., Ltd.

¹ Data collected since 2006.

**TABLE 31 : USE OF ORFT VIA ATM AND COUNTER.
 VALUE OF TRANSACTIONS (BILLION BAHT)**

	2002	2003	2004	2005	2006	2007
Total ORFT	38	87	114	187	293	427
ATM	38	87	114	187	270	349
Counter ¹	nav.	nav.	nav.	nav.	23	78

Source: National ITMX Co., Ltd.

¹ Data collected since 2006.

**TABLE 32 : BILL PAYMENT AT BANK COUNTERS.
 VOLUME OF TRANSACTIONS (IN THOUSANDS)**

	2002	2003	2004	2005	2006	2007 ^P
Total bill payment ¹	nav.	nav.	nav.	nav.	66,889	72,471
Cash	nav.	nav.	nav.	nav.	58,806	69,135
Cheque	nav.	nav.	nav.	nav.	1,457	1,889
Others	nav.	nav.	nav.	nav.	6,626	1,446

Source: Bank of Thailand

¹ Data collected from banks since 2006.

^P Preliminary data

**TABLE 33 : BILL PAYMENT AT BANK COUNTERS.
 VALUE OF TRANSACTIONS (BILLION BAHT)**

	2002	2003	2004	2005	2006	2007 ^P
Total bill payment ¹	nav.	nav.	nav.	nav.	3,909	5,182
Cash	nav.	nav.	nav.	nav.	898	1,362
Cheque	nav.	nav.	nav.	nav.	1,904	2,241
Others	nav.	nav.	nav.	nav.	1,107	1,578

Source: Bank of Thailand

¹ Data collected from banks since 2006.

^P Preliminary data

TABLE 34 : USE OF E-MONEY ¹

	2002	2003	2004	2005	2006	2007
No. of cards/accounts	nav.	nav.	nav.	nav.	3,190,135	3,689,484
Volume of transactions	nav.	nav.	nav.	nav.	23,644,155	75,642,216
Value of transactions (million baht)	nav.	nav.	nav.	nav.	5,532.4	8,660.9

Source: Bank of Thailand

¹ Data collected since 2006 and excluded top-up cards.

TABLE 35 : FRAUD THROUGH SPECIFIC PAYMENT CHANNELS AND PAYMENT INSTRUMENTS¹ (MILLION BAHT)

	2002	2003	2004	2005	2006	2007 ^P
Total fraud	nav.	nav.	nav.	nav.	345	620
Payment channels ²	nav.	nav.	nav.	nav.	90	389
Payment instruments ³	nav.	nav.	nav.	nav.	254	231

Source: Bank of Thailand

¹ Data collected from banks, some special financial institutions and some credit card companies since 2006.

² Banks report only final result. Fraud through specific payment channels include phone banking, mobile banking, internet banking, pass book and other channels.

³ Banks report only final result. Fraud via specific payment instruments include cheque, credit card, ATM card, debit card, prepaid card and other cards.

^P Preliminary data

Symbols Appeared in the Table used	Meanings
"-"	No data
"nav."	Data not collected or not available
"neg."	Data have very low value as compared to other data in the same table
"0"	Data equal to or near zero

- Table 1 - Gross Domestic Products at current price.
 - Foreign exchange rate are annual averages.
- Table 6-7 - From 2006, data on cheque consists of in-house cheque and Interbank cheque including data on all commercial banks and 3 specialized financial institutions.
 - Data on Credit Transfer is based on intrabank preauthorized direct credit transactions.
 - Data on Direct Debit is based on intrabank preauthorized direct debit transactions.
 - From 2002, data on BAHTNET includes interbank funds transfer, third parties funds transfer, Multilateral Funds Transfer.
 - From 2003, data on credit cards transactions includes data from non-financial institutions in accordance with BOT's Notification No. FPB.(21) C.207/2545
 - From 2004, data on value and volume of debit card usage was separated form that of ATMs.
 - From 2004, data on volume of credit card transactions included transactions made on cards issued by issuing banks, affinity company, and acquiring banks.
- Table 9 - Data excludes the number and value of accounts at the Bank of Thailand branches
- Table 10-11 - Data on ATM-ORFT were available from 2000.
 - Data on inter-provincial cheques includes only interprovincial cheques exchanged at the Electronic Clearing House in Bangkok.

	- From 2002, data on BAHTNET includes of interbank funds transfer, third party funds transfer, and Multilateral Funds Transfer.
Table 12-13	- Equity Securities Settlement is processed through the scripless Book-entry System only.
Table 16	- From 2006, the number of EFTPOS includes data of the commercial banks and some of credit card companies.
Table 17	- From 2002, data on credit cards has been based on new reporting requirements issued on BOT's Notification No. FPB(21)C.207/2545 dated 12 November 2002.
Table 18-19	- Data on domestic money order includes domestic money order service and Pay at Post Service.
Table 22-25	- Data on inter-provincial cheques include on cheques exchanged at Electronic Clearing House in Bangkok. - From 2002, data on BAHTNET includes interbank funds transfer, third party funds transfer and Multilateral Funds Transfer.
Table 26	- Monthly average value of domestic and oversea spending of Thai credit cards and Thai debit cards via EFTPOS
Table 29	- From 2004, data of internet banking transactions excludes enquiry transactions.
Table 33	- Data on e-Money excludes pre-paid mobile phone top-up
Table 35	- Data surveyed from commercial banks and some credit card companies.

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Payment System Division is responsible for explanations and opinions
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