

5 Strengthening Payment Systems

5.1 Overview

Sound and efficient payment systems contribute towards the growth of an economy, stability of financial system, and smooth functioning of financial market. The Payment Systems Department has a key role to play in overseeing these payment systems to ensure their robustness. E-Banking in Pakistan has witnessed a substantive growth over the last 5 years. Its popularity among the masses was however boosted by the introduction of Plastic Money, which provided customers the facility of accessing their accounts 24/7/365. Here the introduction of Master and VISA Cards also played a key role in the growth of plastic money, but the complex nature of the product coupled with lack of awareness resulted in rising number of complaints and disputes.

To improve the functioning of ATMs, provide secured environment for 24/7 banking on ATMs, and to ensure safety and privacy of ATM customers, PSD in its various meetings with Commercial Banks emphasized the importance of the compliance of its ATM security related measures. EMV cards are considered as more secure against card fraud than cards that rely only on data encoded in a magnetic stripe on the back of the card, since EMV cards are based on chip card technology. In order to issue EMV compliant cards in Pakistan, Payment Systems Department held discussions with stakeholders wherein, it was agreed that by end 2010 all banks will issue EMV compliant cards. However, to ensure the availability of proper infrastructure for supporting EMV cards in Pakistan, all POS network acquiring banks were advised to convert POS machines to EMV compliant and the same was accomplished in December 2008.

Protecting cardholder's data is a requirement of Payment Card Industry Data Security Standards (PCI DSS), an organization founded by American Express, Discover Financial Services, JCB International, MasterCard international, and Visa. For protection of cardholder's data PCI DSS requires financial institutes to mask Primary Account Number (PAN) for card transactions. In this reference, Payment Systems Department initiated the project of transforming POS machines for PAN masking with an objective to prevent the misuse of cardholder personal information and to follow the international best practices. Previously transaction slips generated through POS machines contained Cardholders' personal information such as his/her name, complete card number, date of expiry, etc. which could easily be used for fraudulent purposes.

5.2 Real Time Gross Settlement (RTGS)

RTGS is a payment mechanism that settles inter-bank and other time critical payments in real time, item by item across the participants' current account held with the central bank. Pakistan's Real Time Gross Settlement System is named PRISM. Pakistan's Real Time Interbank Settlement Mechanism was launched on July 1, 2008 and since then has been successfully providing online real-time settlement services to the 40 participating institutions. All Commercial banks in Pakistan and three Development Finance Institutions (DFIs) are direct members of this system.

PRISM offers the following main services to its participants:

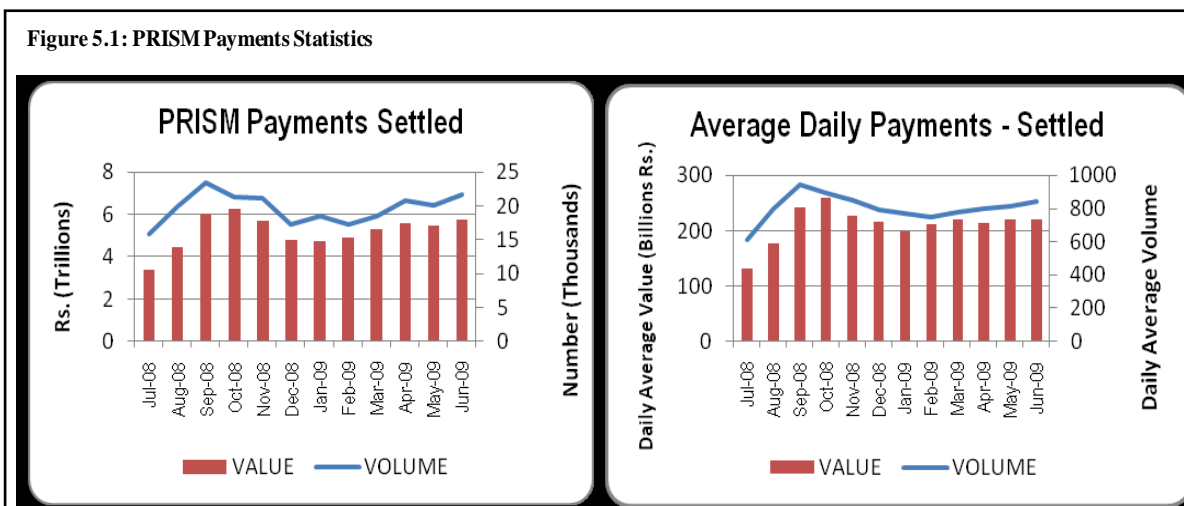
- Real time settlement of cash and government securities related payments. Multilateral net settlement of the cheque clearing is also done via PRISM system.
- Settlement of government securities trades on Delivery versus Payment (DVP) basis.
- In case, sufficient cash is not available in a participant's account, the payment can be queued for settlement at a later time as and when the cash becomes available. The participant has the full capability of managing their own queues.
- Participants also have the option of availing collateralized Intraday Liquidity Facility (ILF)

- Online position monitoring of cash and securities balances is also available to the participants.
- SBP also manages a functioning help desk for the participants and addresses their complaints immediately.

The overall launch of the system was done in phases to enable the participants to gradually adapt to the system with minimum inconvenience. SBP was also able to effectively handle any support issues during the initial days of launch. Similarly, SBP fully facilitated the system participants in gradually moving from the cheque based payment mechanism to the new online real time system. SBP also released comprehensive ‘Rules & Regulations’ for PRISM operations, prepared after extensive deliberations with all the participants and internal departments.

5.2.1 PRISM Payment Statistics

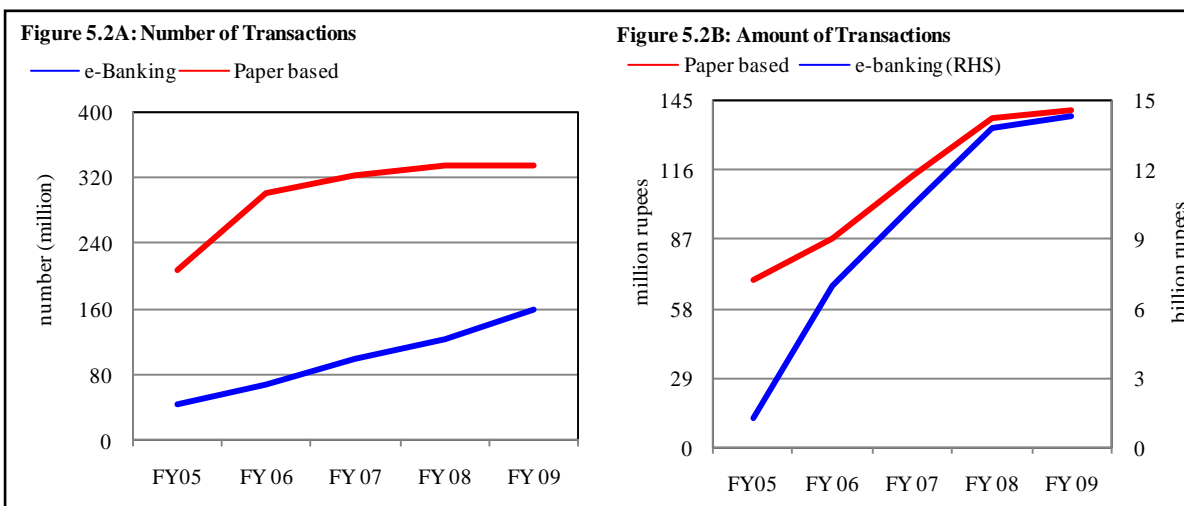
From July 2008 till June 2009, the PRISM system settled payments of around Rs59 trillion with a



total volume of more than 220,000 payments (see **Figure 5.1**). On an average the system settled around 750 daily payments valuing around Rs200 billion.

5.3 Branchless / Electronic Banking

Branchless / Electronic Banking systems are money transmission / delivery mechanism. These systems are cash based and virtual payments. During FY09 the volume of total retail payment transactions registered a growth of 7.9 percent against 8.3 percent increase in the previous year and



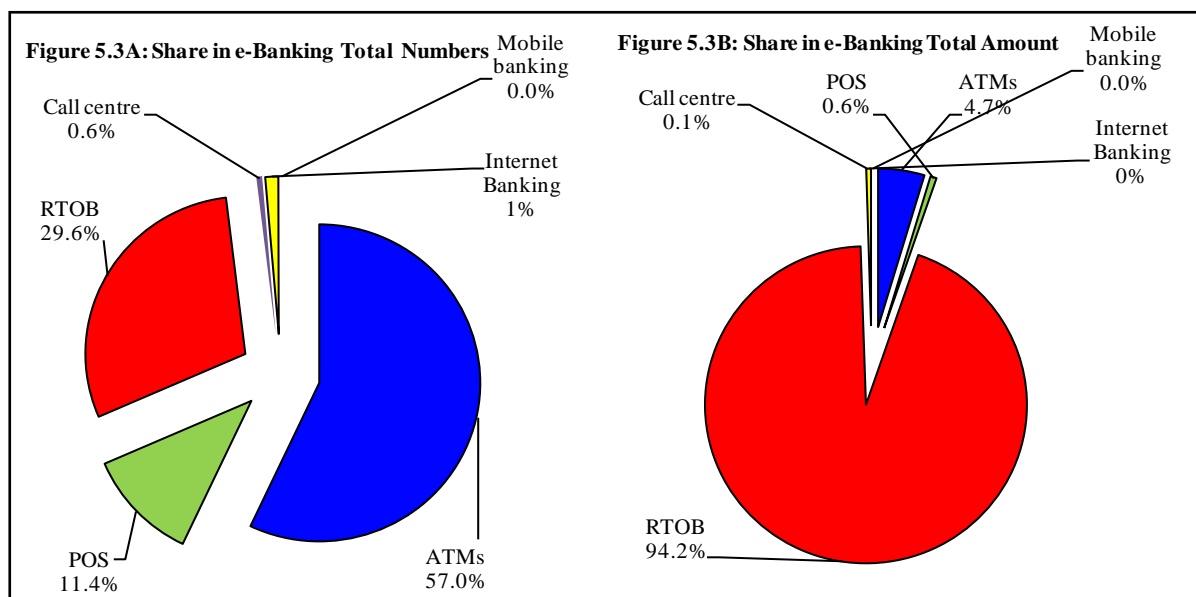
value of total retail payment transactions registered an increase of 2.7 percent against 21.8 percent increase last year. The trend of paper and electronic based transactions and value since FY05 is given in **Figure 5.2A –B**.

5.4 The Retail Payments through Branchless Banking / Electronic Banking

In terms of volume, the electronic banking has recorded 159.8 million transactions showing 28.4 percent increase against increase of 25.2 percent recorded in the previous year. In terms of value, it reached Rs14.4 trillion showing an increase of 3.5 percent against 32.4 percent increase last year (see **Figure 5.2A-B**).

5.4.1 Branchless / E-Banking Composition

ATMs are commonly used for frequent but small value cash withdrawals, therefore, its share in total number of electronic transactions was recorded to be the highest, i.e., 57 percent. During FY 09 the average size of ATM transactions¹ was recorded at Rs7, 336 compared to Rs6,670 recorded during last year. The share of Real Time Online Banking (RTOB) and POS in the total e-Banking was 30 percent and 11 percent. Call Centre, Internet Banking and Mobile Banking, however, had comparatively low share in the total e-Banking business (**Figure 5.3A**). In terms of value, the RTOB



contribution was 94 percent, since this channel is mostly used for B2B transactions. ATM transactions contributed five percent in the value of transactions. The share in value of POS, Internet, Mobile banking and Call Center banking was very nominal (**Figure 5.3B**).

5.5 Branchless / E-Banking Infrastructure in Pakistan

5.5.1 Online Branch Network and Automated Teller Machines (ATMs)

During FY 09, banks have expanded their online branch network from 5,282 to 6,040, showing a growth of 14 percent compared to 26 percent growth recorded last year. The share of online branches in the total branch network has increased from 64 percent to 68 percent. Similarly, during FY 09, banks have added 878 new ATMs in their network, bringing the total number of ATMs in the country to 3,999 registering a growth of 28.1 percent compared to 36.1 percent growth recorded last year (**Fig. 5.4**).

¹ The average size of ATM Transactions = Total Amount / Total number of transactions. Here the total numbers of ATM transactions include cash withdrawal, cash deposit, IBFT, utility bills payment, and deposit of Payment instruments.

5.5.2 Number of Cards (Credit/Debit/ATM)

As of June 30, 2009, total cards in circulation were 8.9 million compared to 7.5 million recorded last year, showing growth of 20 percent (Fig. 5.5).

Credit Cards

The total number of credit cards decreased from 1.8 million to 1.7 million in FY 09, showing decrease of 6 percent compared to 5 percent increase recorded last year. Islamic credit cards were 2,468.

Debit Cards

Total number of debit cards has increased from 4.9 million to 6.4 million in FY 09, showing growth of 30 percent compared to 23 percent decrease recorded last year.

ATM Cards

During FY 09, total ATM cards in circulation were 0.881 million as against 0.789 million cards reported during last year, showing an increase of 12 percent.

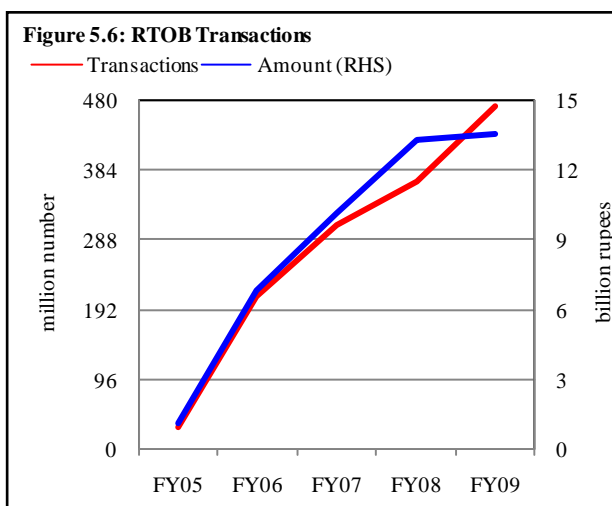
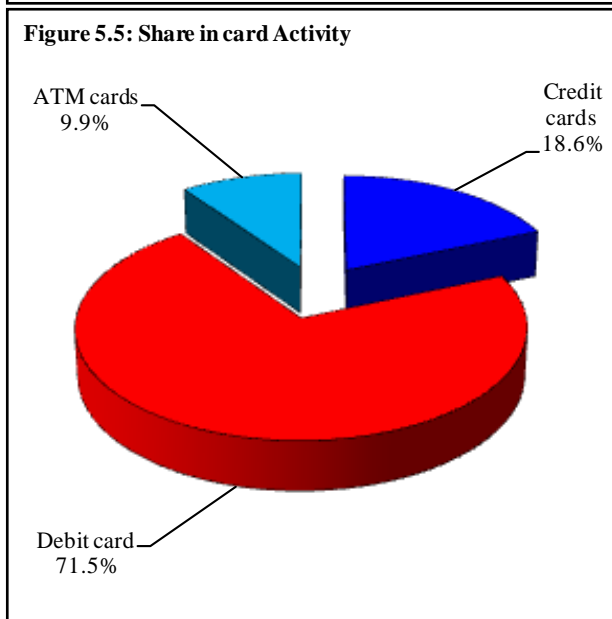
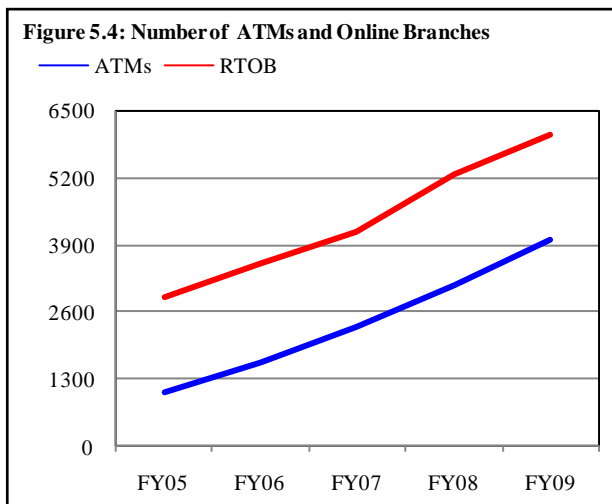
Smart Cards

Smart cards are chip based cards with enhanced memory and security features. Out of 8.9 million cards, 0.434 million or 5 percent were chip based cards. During FY 09, however, the total number of chip based cards increased by 11 percent.

5.6 E-Banking (Cash Based - Online Banking & ATM)

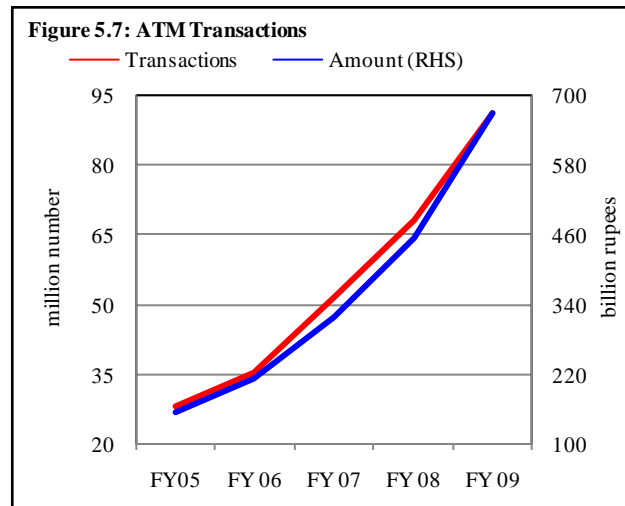
5.6.1 Real Time Online Banking (RTOB) Transactions

During FY 09, the total number of RTOB transactions increased by 28.3 percent compared to 19.9 percent increase recorded last year. In terms of value, the amount increased by 1.7 percent compared to 32 percent last year (see Figure 5.6). Banks use RTOB channel for conducting various transactions which constitute 94 percent of total e-Banking transactions value in the country.



5.6.2 Transactions through ATM

ATMs transactions during FY 09 registered an increase of 34 percent compared to 32 percent last year (see **Figure 5.7**). The amount of ATM transactions increased by 48 percent compared to 43 percent last year. Apart from cash withdrawal, ATMs are also used for inter/intra bank funds transfer, cash deposits, payment of utility bills, etc. In Pakistan, on average, 62 transactions were executed per day per ATM during the year. The size of average transaction was Rs7, 336/.



Fund Transfers

During FY 09, funds transfer transactions made through ATMs were recorded at 1.8 million showing an increase of 139 percent compared to 163 percent last year. The value of such funds transfer was Rs86.96 billion, depicting an increase of 121 percent compared to 221 percent last year. Funds transfer through ATMs mostly included intra-bank transfer and small portion of inter-bank funds transfers.

Cash Deposits

Quite a few banks are providing the facility of cash deposit through ATMs. The mechanism for cash deposit is either through single/bunch note acceptor or envelope based. During FY 09 only 21 thousand transactions of cash deposit through ATMs were reported, showing increase of 99 percent compared to 39 percent increase recorded last year. In terms of value, the amount increased from 119 million to 235 million for the fiscal year under review showing an increase of 97 percent compared to 30 percent last year.

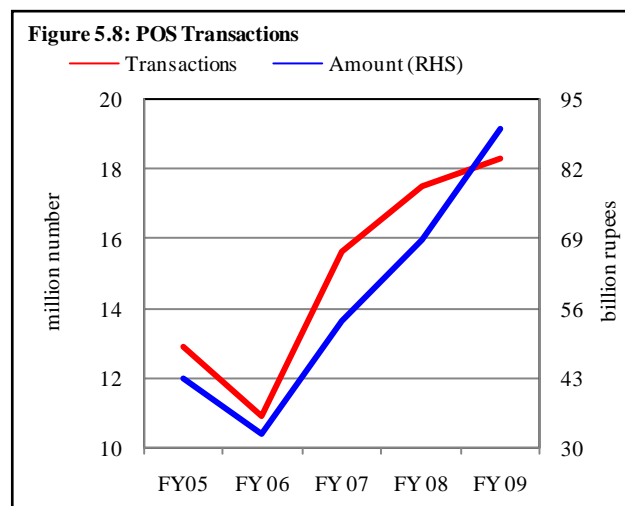
Utility Bills Payment

During FY 09, the utility bills payment transactions through ATMs reported 44,807 transactions, showing increase of 69 percent compared to 5 percent decrease last year. In value terms, the banks reported Rs80 million compared to 33 million recorded last year, showing 144 percent increase compared to 3 percent decrease last year.

5.7 Branchless Banking / E- Banking (Virtual /Plastic Money)

5.7.1 Point of Sale (POS) Transactions

The total number of POS machines/terminals has reached 49,715, placed across the country on different merchant locations compared to 43,903 machines recorded last year which shows an increase of 13 percent. The number of POS transactions recorded 18.3 million showing an increase of 4.5 percent compared to 12.2 percent increase recorded last year. The amount of such transactions was Rs89.6 billion registering an increase of 30 percent as against 28.3 percent last year (See **Figure 5.8**).



5.7.2 Call Centre Banking

Banking through Call Centre/Interactive

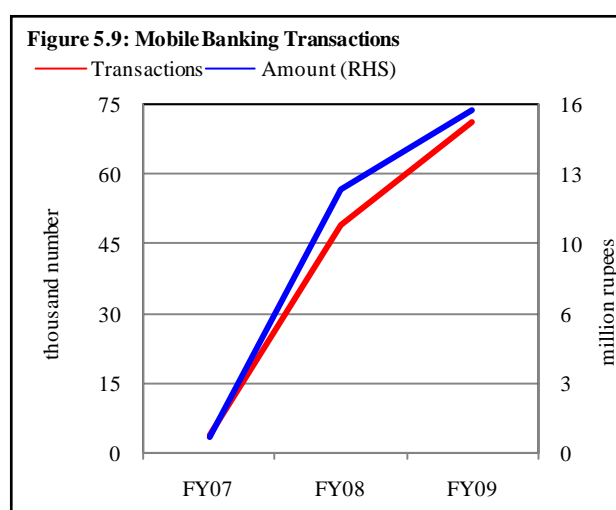
Voice Response (IVR) is also included in the electronic banking channels. The number of transactions through such channels reported by the banks for FY 09 were 0.93 million, involving an amount of Rs8.5 billion. This shows an increase of 13 percent in volume and 15 percent decrease in value compared to 28 percent increase in volume and 4 percent increase in value recorded last year.

5.7.3 Internet Banking

Internet banking includes payments and electronic funds transfer (EFT). The funds transfer, however, is presently limited to intra bank account to account funds transfer except for a bank which offers interbank funds transfer facility through internet. Internet banking in Pakistan is growing slowly but at a steady pace. During FY09, banks reported 2.1 million transactions involving an amount of Rs68.4 billion. This shows an increase of 59 percent in numbers and 56 percent in amount compared to increase of 49 percent in value and 58 percent in amount recorded last year.

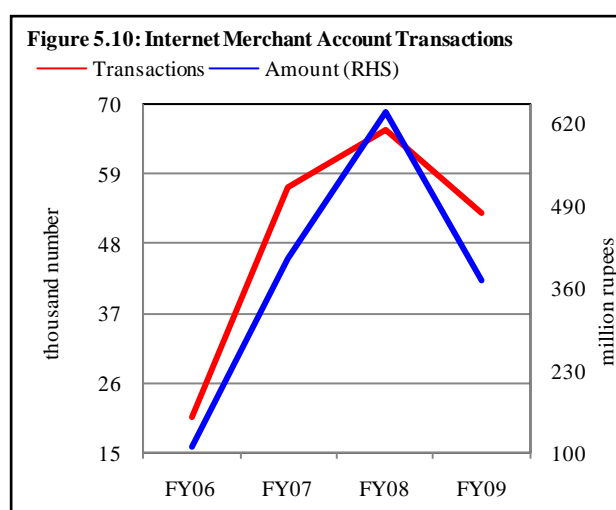
5.7.4 Mobile Banking

There are few banks which offer transactions through mobile. These transactions include payment through mobile (excluding utility bills payment), utility bills payment, A/c to A/c funds transfer and third party A/c to A/c funds transfer. The number of transactions were 71,240 for fiscal year 09 shows an increase of 46 percent in number of mobile transactions. In terms of value, it reached Rs16 million registering an increase of 30 percent (see **Figure 5.9**).



5.7.5 Internet Merchant Banking

Transactions done through internet merchant account are part of Internet Merchant (IM) Banking. There were a total of 19 internet merchant accounts in FY09. Mostly service sector/NGOs are IM account holders. The number as well as amount of transactions done through internet merchant accounts is not consistent as transactions done are of seasonal nature and covers activities like air fares, college fee payments, etc. Fiscal year 09 registered a decrease of 20 percent in number against 16 percent increase last year. In terms of value, there was decrease of 42 percent as against 57 percent increase last year (See **Figure 5.10**).



5.8 Cross Border Transactions through E-Banking

Cross border transactions include only those transactions which were executed using either an ATM / POS machine or Internet. ATM transactions include cash withdrawal through ATMs; the inflow of such transactions has increased by 7 percent compared to 0.4 percent increase last year whereas out flow increased by 30 percent compared to 22 percent increase last year. The POS transactions include purchases of goods and services by the customers. The inflow of POS transactions increased by 48 percent compared to 12 percent increase last year while the outflow increased by 37 percent compared to 17 percent increase

in the previous year. The internet transactions include purchase of goods and services using foreign/local internet merchants. The inflow of internet transactions increased by 26 percent compared to 17 percent increase last year where as the out flow increased by 19 percent compared to 47 percent increase last year. The foreign merchants include names like eBay, Amazon, Google, etc. Internet transactions also include payment of fee to foreign universities and online courses like ACCA, CIMA, etc.

Table 5.1: Comparison of Cross Border Payment Transactions

Million rupees

Means of transaction	Inflow of money (Inward remittance)		Outflow of money (Outward remittance)		Net	
	FY 08	FY 09	FY 08	FY 09	FY 08	FY 09
ATM	8,277	8,818	(1,293)	(1,678)	6,983	7,139
POS	10,289	15,253	(7,462)	(10,231)	2,827	5,023
INTERNET	200	252	(939)	(1,116)	(739)	(864)
Total	18,765	24,323	(9,694)	(13,025)	9,072	11,298

The comparison of cross border transactions, showing inflow and outflow of money through e-banking, is given in **Table 5.1**, which indicates that the volume of cross border e-banking transactions (net inflow) increased by 25 percent compared to 5 percent decrease reported last year.

5.9 Non-financial E-Banking Transactions

Channels of e-banking are also used for non-financial transactions like balance inquiry, account statements, etc. The total number of non-financial transactions reported during the fiscal year was 46.97 million against 35.04 million last year, as shown in **Figure 5.11**.

5.10 The Retail Payments through Paper Based Instruments

FY09 witnessed a growth of 0.3 percent in numbers compared with 3.1 percent increase in the previous fiscal year (see **Table 5.2**). The value of transactions increased by 2.6 percent as against 20.9 percent last year. While looking at the composition of the paper based instruments, the

Figure 5.11: Non-Financial Transactions (million number)

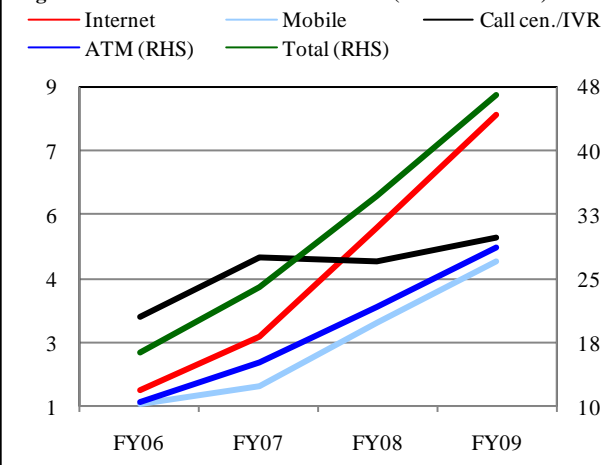


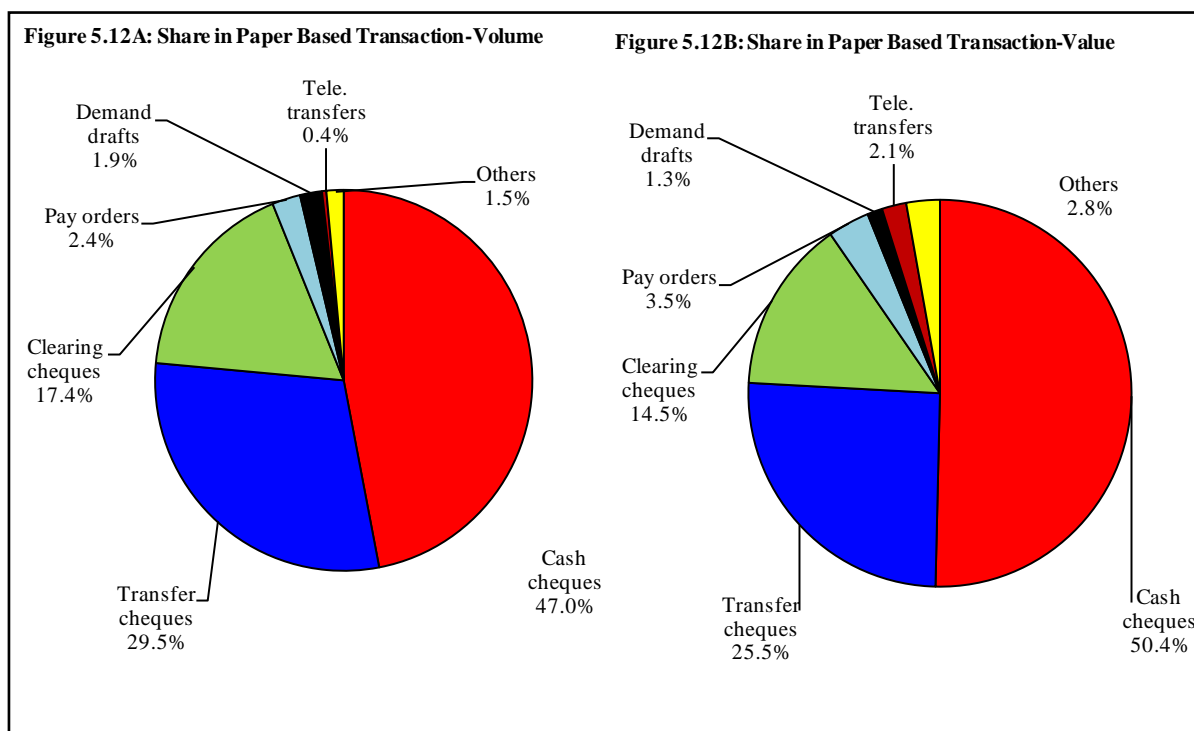
Table 5.2: Paper Based Instruments

Amount in trillion rupees, number in million

Instruments	FY09		FY08	
	Number	Amount	Number	Amount
Cash – cheques	156.0	71.8	157.5	71.0
Transfer - cheques	93.1	35.7	98.8	35.9
Clearing - cheques	60.7	17.9	58.3	20.4
Pay orders	11.2	5.0	8.1	4.9
Demand drafts	6.5	1.5	6.3	1.8
Tele. transfers	2.1	3.1	1.2	2.9
Others	4.8	2.4	4.9	4.0
TOTAL	334.4	137.4	335.3	141.0

cheques (such as cash, clearing, transfer) carry a major share, i.e., 94 percent in volume and 92

percent in value. Here the cash cheques have been the most widely used paper based instrument with 47 percent share in volume and 50 percent share in value. The respective percentage share of all



instruments is shown in **Figure 5.12A-B**.

5.11 Transition to E-Banking

During the last six years the transition from manual (paper based) banking to e-banking has been gradual, yet consistent, in terms of both volume and value of transactions. The composition (in percentage) of electronic transaction increased to 32.3 percent of the total number of transactions compared to 27.1 percent recorded last year. In terms of value, the same was to be 9.25 percent compared to 9.18 percent last year (see **Figure 5.13A-B**).

