

2 Payment System

SBP has been playing a leading role in development of National Payment Systems architecture and infrastructure as the Regulator, Operator and Facilitator. Development of a modern and robust payment system is an important strategic goal of *SBP Vision 2020*. Under this goal SBP is developing the National Payment System strategy, modernizing the clearing and settlement infrastructure for reducing cost, improving efficiency, enhancing security, and strengthening its regulatory and supervisory oversight.

In Pakistan, a number of critical financial market infrastructures, including payment systems, have been developed over the years. The major ones are i) the Pakistan Real-time Interbank Settlement Mechanism (PRISM) - which is the RTGS system of Pakistan; ii) National Institutional Facilitation Technologies (NIFT) for Clearing of Paper instruments; iii) National Clearing Company of Pakistan Limited (NCCPL) for clearing and settlement of all book entry securities, and iv) ILink that operates and manages an ATM Switch, an Interbank Funds Transfer (IBFT) facility, a Utility Bills Payments facility and the recently started domestic payment scheme, PayPak. In addition POS networks, Internet Banking, Mobile Banking, Call Center and IVR Banking and Branchless Banking are important components of country's payments infrastructure.

2.1 Payment Systems Performance

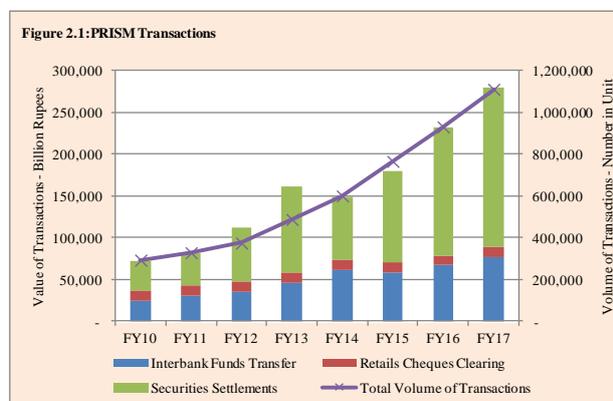
Payment Systems performance can be assessed based on the growth and advancement in available infrastructure of payment system and the resultant growth in number and value of transactions being processed by the payment system. The usage of electronic payment modes has been increasing at a fast pace since last 5-6 years, both the large value and retail payments. The momentum continued during FY17 as both the volumes and value of electronic payments maintained their upward growth trajectory. Similarly, users of internet banking and usage of pay cards registered handsome growth.

2.1.1 Large Value Payment System (PRISM)

PRISM is used for large value interbank funds transfers by financial institution and for settlement of trades of government securities and paper instruments. Presently, there are 42 direct participants of PRISM comprising of 32 banks, 7 Development Finance Institutions (DFIs), 2 Microfinance Banks (MFBs) and the Central Depository Company (CDC). In addition, there are 150 plus indirect participants as well comprising mainly of insurance companies, investment companies and brokerage houses.

The major payments processed through PRISM (RTGS) include third party transfers (Customer payments) and inter-bank funds transfers. Recently, SBP has also allowed banks to transfer home remittances through PRISM. Since the launch of PRISM system in 2008, a growing trend in the volume and value of transactions has been witnessed, which is largely driven by third party transfers, especially PRI transfers.

The total value of transactions processed by



PRISM increased from Rs 231.7 trillion in FY16 to Rs 279.5 trillion in FY17 showing an increase of 20.6 percent; while the volume of transactions grew by 19.4 percent from 930 thousand to 1,110.1 thousand in FY 17. The significant increase in volume is attributed to the increase in the number of home remittances transactions. Further, to enhance the outreach of large value Electronic Funds Transfers (EFT) system the PRISM membership was allowed to Islamic Banking Branches (IBBs) of conventional banks.

2.1.2 Retail Payment Systems

Retail payment services in the country are being offered by 30 Banks, 4 specialized Banks, 11 Microfinance Banks, and 8 Development Finance Institutions (DFIs). These entities have 14,689 branches amongst them registering an increase of 8.5 percent from the previous year.¹ Key payment services being offered by these financial institutions are discussed below:

Real Time Online Bank Transfers

Real Time Online Branches are connected with the centralized core banking systems of the banks in order to provide real time online banking facilities for cash deposits, cash withdrawals and Intra-bank fund transfer facility. Besides 14,273, bank branches, 155 sub-branches and 355 permanent booths are also providing limited banking facilities to the customers. During FY17, a total of 143.6 million transactions were processed valuing at Rs 31.1 trillion which was 23% of total e-banking transactions by volume and 84% by value.

Payment Cards

Payment cards have recorded a very significant growth in the last 5 years. This shows growing acceptability of the cards and electronic modes of payments by the general public. As of June 30, 2017, there were over 17.9 million debit cards, over 8 million ATM only cards and around 1.3 million credit cards. Overall, during FY17, the number of plastic cards in Pakistan increased by 8.8 percent to 36.6 million (breakup at **Table 2.2**).

SBP has taken a number of steps to promote not just the card issuance in Pakistan but also their acceptance especially at Point of Sale (POS) terminals. The country's first domestic payment scheme, PayPak, was launched in April 2016 with the objective of giving consumers the choice of a low cost payment card that could be used within the country. During FY17, SBP continued to work with PayPak payment scheme originator (1Link) and the card issuing and acquiring banks in Pakistan to initiate mass level card issuance and acceptance. PayPak cards are now being issued by 9 major banks (who have 73 percent of the total market share in terms of card issuance) and are being accepted on all ATM machines and on 25 percent of POS terminals. SBP has also granted permission for Co-branding of Payment cards to 1Link thus encouraging international payment schemes to partner with PayPak for joint issuance of cards.

The payment cards have also become a preferred method of disbursing social welfare cash transfers in the country. The number of these social welfare cards (like the *Benazir Income Support Program-BISP* card) was over 9 million as of 30th June 2017. However, the use of these cards is limited to cash withdrawals only. SBP during the year also started segregating debit cards from pre-paid cards and social welfare cards. For this purpose, separate heads have been included in the payment cards section of the reported data.

¹ Note: (This year 123 overseas branches were also included in the total count).

Automated Teller Machines (ATMs)

ATMs are the most frequently used channel for withdrawal of cash. ATM infrastructure in Pakistan comprises of 12,689 ATMs installed by 32 banks, this shows an 11.5 percent growth over the previous year. About 10,478 (83 percent) of the total ATMs are installed at bank branches (on-site ATMs), whereas 2,207(17.4 percent) are installed at business places, hospitals, shopping malls (off-site ATMs) and 4 ATMs are operational in mobile vehicles. Out of total installed ATMs, 1,583 ATMs are also equipped with biometric sensors for authentication. A total of 397.7 million transactions were processed on ATMs valuing at around Rs 4.6 Trillion. Overall, this amounts to 64% of total e-banking volume and 12% in value. During Ramzan and the ensuing *Eid ul Fitr* holidays in 2017, a total of Rs 442 Billion were withdrawn through ATMs.

Point of Sales (POS)

The total number of POS machines grew by 7.3 percent to 54,490 during the year whereas the value of total transactions processed through POS machines grew by 23 percent to Rs 246 Billion. In order to encourage the use of POS machines, banks and third party providers are being encouraged to incentivize merchants, by offering them associated value added services. In addition, more convenient payment methods like QR Codes and mobile apps are also being introduced in the market by payment schemes and new Fintechs; however, their uptake is still in infancy stage and limited to upscale outlets and their acceptance among the masses is yet to be seen.

Internet Banking and other Channels

As of June 2017, Internet Banking, Mobile Phone Banking and Call Centers/ IVR Banking services were being offered by 25, 18 and 25 Banks respectively. During FY17, 25.2 million transactions were processed through internet banking, valuing around Rs 969 Billion. Mobile phone banking, accounted for 7.4 million transactions with a total value of Rs 141Billion in FY17. This represents a yearly growth of 32 percent (volume) for internet banking transactions and 12 percent (volume) for mobile banking transactions.

However, as the use of internet and mobile banking has gone up the use of Call Centers/ IVR banking has shown a downwards trend, with a negative growth of 63 percent YOY. It has been observed that customers prefer mobile banking and internet banking over call centers/ IVR as a result banks have started to move away from offering this facility.

E-Commerce in Pakistan has also started picking up with 571 merchants offering their products online. During FY 17, 1.2 million transactions valuing Rs 9.4 Billion were processed through e-commerce.

Table 2.2 gives summary details of transactions settled through various modes including internet banking, ATMs, e-commerce, etc.

Table 2.2 Payment & Settlements Systems

	Unit	FY13	FY14	FY15	FY16	FY17 ^P	CAGR%
1. Paper Based Instruments (Cheques, Pay Orders, Demand Drafts and others)							
No. of Transactions*	Million	359.0	362.0	361.6	339.7	451.8	5.9%
Value of Transactions	Trillion Rs	107.0	115.2	127.2	134.4	139.6	6.9%
2. Electronic Banking and its Composition							
No. of Transactions	Million	320.5	403.6	469.1	543.8	625.8	18.2%
Value of Transactions	Trillion Rs	29.7	33.7	35.9	37.2	37.1	5.7%
2.1. Real-time Online Banking (RTOB)							
No. of Transactions	Million	89.1	98.5	113.8	135.4	143.6	12.7%
Value of Transactions	Trillion Rs	27.1	30.2	31.6	32.3	31.1	3.5%
2.2 Automated Teller Machines (ATMs)							
No. of Transactions	Million	199.8	258.5	300.3	342.9	397.7	18.8%
Value of Transactions	Trillion Rs	2.0	2.6	3.2	3.7	4.6	22.9%
2.3. Point of Sale (POS)							
No. of Transactions	Million	17.3	24.3	32.1	39.2	50.5	30.7%
Value of Transactions	Billion Rs	87.0	124.6	172.1	199.8	246.0	29.7%
2.4. Internet Banking							
No. of Transactions	Million	9.6	15.6	16.0	19.0	25.2	27.3%
Value of Transactions	Billion Rs	498.8	675.6	797.7	880.5	968.7	18.0%
2.5. Mobile Phone Banking							
No. of Transactions	Million	4.2	6.2	6.1	6.6	7.4	15.4%
Value of Transactions	Billion Rs	27.0	67.4	106.9	112.5	141.4	51.3%
2.6. Call Center & IVR Banking							
No. of Transactions	Thousand	639.2	666.0	765.6	714.8	261.9	-20.0%
Value of Transactions	Billion Rs	8.2	9.5	9.5	10.1	7.8	-1.2%
2.7. e-Commerce							
No. of Transactions	Million					1.2	
Value of Transactions	Billion Rs					9.4	
3. Numbers of:							
i. Real Time Online Branches (RTOB)	Number	10,013	10,640	11,315	12,674	14,150	9.0%
ii. Automated Teller Machines (ATM)	Number	6,757	8,240	9,597	11,381	12,689	17.1%
iii. Point of Sale (POS)	Number	33,748	34,428	41,183	50,769	54,490	12.7%
4. Payment Cards							
i. Debit Cards**	Thousand	20,267	23,061	25,024	27,411	17,857	-3.1%
ii. Credit Cards	Thousand	1,088	1,334	1,370	1,450	1,292	4.4%
iii. Proprietary ATMs only Cards	Thousand	933	958	900	4,799	8,043	71.4%
iv. Pre-Paid Cards	Thousand					316	
v. Social Welfare Cards	Thousand					9,124	

P - Provisional as on June 30, 2016

* OTC cash deposit for FY 17, have been included in Paper Based instruments.

** Debit cards shows negative growth as social welfare cards and pre-paid cards have been removed from the total of debit cards.

2.2 Major Developments in Payment Systems

Payment systems landscape has undergone a major shift in the past few years with exponential growth in retail electronic payments and transfers. SBP has been promoting growth of e-payment systems by strengthening the payment infrastructure and encouraging market players to provide value added products and services to the consumers. Some of the key achievements are discussed below:

2.2.1 RTGS Up-gradation

Pakistan Real Time Interbank Settlement Mechanism (PRISM) is the only large value payment system in the country that processes transactions on real time gross settlement basis. Realizing its systemic importance, SBP initiated the upgrade of PRISM. After comprehensive testing by the participants, the system went live on May 22, 2017. The upgrade implementation included scalability of funds transfer system, new system for securities trading and the deployment of system on new servers with advanced operating system. The enhanced features of the upgraded RTGS system have allowed the PRISM participants an efficient mechanism for monitoring of funds and Government securities, allowing them to manage liquidity at an optimal level.

2.2.2 Implementation of Straight through Processing (STP)

Implementation of Straight Through processing (STP) is an important SBP initiative to ensure speedy transfer of funds in beneficiaries' accounts. Under the STP, PRISM is integrated with participants' (Banks') core banking systems. The STP ensures that the information/transaction entered in the system is processed end to end without any manual/human intervention. Last year, the SBP had advised the direct participants of PRISM to implement the STP. As a result of rigorous follow up during the year under review, 32 out of 42 participants had successfully implemented the STP by the year end. The applications of 3 other participants were under process whereas 4 participants were in the process of completing the preliminary requirements including development of middleware and placement of additional firewall for enhanced security. The remaining PRISM participants were granted exemption based on low transactional volumes.

2.2.3 Channeling of Home Remittances through PRISM

Overseas Pakistanis have been sending Home remittances to Pakistan for decades, but the digital shift is making that process easier than ever. In order to enable fast and secure transfer of home remittances across banks and to bring efficiency in the overall process, the SBP allowed the use of PRISM for inter-bank transfer of Home Remittances. This process facilitates transfer of home remittances into beneficiaries' accounts across banks and avoids manual reentry at various stages. By June 30, 2017, 24 out of 25 Pakistan Remittances Initiatives (PRI) member banks had implemented the system for interbank transfer of home remittances through PRISM.

2.2.4 Islamic Banking Branches allowed PRISM Membership

To enhance the outreach of large value electronic funds transfers (EFT) system, the direct membership of PRISM was extended to Islamic Banking Branches (IBBs) of conventional banks during the year. Accordingly, IBBs were advised to establish separate operational set-up of PRISM subject to fulfillment of certain conditions as specified in PSD Circular No. 06 of 2016.

2.2.5 CDNS awarded Clearinghouse Membership

In order to facilitate the Account holders of Central Directorate of National Savings (CDNS) in smooth and expeditious receipt of their profits in their accounts with commercial banks, SBP during the year allowed CDNS to become a direct member of NIFT. Banks were advised to accept profit coupons and withdrawals slips pertaining to CDNS schemes at their counters for receiving the funds

in the customers'/beneficiaries' accounts through normal clearing mechanism. In addition, banks were also advised to endorse coupons and withdrawal slips before submitting them to NIFT.

2.2.6 PayPak Gains Traction

Since its launch in 2016, the SBP has been actively working with Payment Service Providers to encourage the issuance of PayPak cards and increase its uptake in the country. Encouragingly by end of June 2017, 9 payment service providers with a total market share of 73 percent (total cards issued) had started issuing PayPak cards to their customers. Out of 6 acquirers, 4 had started updating their POS machines to accept PayPak cards; overall 25 percent of the POS machines in Pakistan had been upgraded to accept PayPak cards. Further, all ATM machines in Pakistan were accepting PayPak cards.

2.3 Improving efficiency of Government Payments and Receipts

The Government payments and receipts constitute a significant part of the country's overall payment system. Thus improving efficiency, security and simplification of Government payments and receipts is imperative for attaining the goals set under National Payments Systems Blueprint in the *SBP Vision 2020*. Several initiatives have been taken to achieve these goals including implementation of e-cheque reconciliation system in SBP BSC offices, initiation of projects for online collection of taxes and duties and elimination of cheques and paper instruments from Government payments.

2.3.1 Online marking of Cheque / Instruments for Government Payments

In order to enhance efficiency in processing government payments, a project of 'E-Cheque Reconciliation System' was started in 2016. This project is being implemented in a phased manner. Initially as a pilot project, has now been rolled out at all SBP-BSC Offices. This system has significantly reduced the hassle of manually searching the cheque numbers from the paper based schedules and has enabled SBP-BSC to reconcile and report system generated cheques issued by AGPRs/AGs/DAOs on behalf of federal, provincial and district governments. The system has brought transparency in government payments and ensured timely and accurate online reporting to Account Offices. The NBP, being an agent of SBP for government banking business, has been asked to implement the system at all of its branches dealing with government payments. The implementation of the system in NBP will result in even larger efficiency gains due to large number of branches dealing in government payments across the country.

2.3.2 Punjab Land Record Authority (PLRA) receipts through Bank of Punjab (BOP)

Under Government of Punjab project for establishment of bank booths at *Arazi* Record Centers (ARCs) for collections of fee and *Fard* issuance, SBP authorized BOP to start collection of PLRA receipts by establishing booths at all 144 ARCs across Punjab province. In the new environment, the booths will be connected through LAN with ARCs. This will not only bring efficiency in the PLRA affairs but will also facilitate the citizens to pay their fees and get PLRA services under one roof in an efficient manner.

2.3.3 Online Collection of Sindh Sales Tax by Sindh Revenue Board (SRB)

In order to collect taxes electronically and facilitate tax payers, SRB had approached SBP for introducing online tax collection through Alternate Delivery Channels (ADCs). The SBP has been working with SRB to develop the requisite system, which was completed during the year and SRB was allowed to initiate online collection of Sindh Sales Tax (SST) through ADCs. Under the new mechanism, the tax payers can pay the SST through online bank portals and ATMs. This mechanism has provided the much needed convenience to the tax payers besides improving transparency and system wide efficiency.

2.3.4 Online collection of FBR Taxes

SBP in collaboration with FBR and 1Link has developed the mechanism for on line collection of all types of Government taxes (P2G). This will allow taxpayers to pay taxes using internet banking accounts or ATMs without visiting bank branches. This will be an additional option for payment of taxes besides the existing tax payment facility being offered at SBP-BSC offices and NBP branches. Initially the online tax payment facility will be made available for all FBR taxes including income tax, sales tax, excise duty and customs duty; in the next phase the facility will be extended to other Government entities and provincial governments as well . The system is likely to be operational by December 31, 2017.

2.3.5 Online Collection of Customs' duty

In order to comply with the WTO's Trade Facilitation Agreement (TFA), the FBR approached SBP to digitize its collection of customs' duty through WeBOC system. WeBOC is a paperless system, which enables importers and exporters across the country to file online customs documents including Goods Declarations (GDs) for Customs Clearance of their consignments. The SBP, Customs and 1link has developed the detailed mechanism for online collection of customs duty. This will allow the importers to pay the duty using their internet banking account or ATMs from across the country. As usual traders will generate their Payment Slip Identification (PSID), which will be used at ADCs e.g. bank's online portals and ATMS to fetch the payment details. The trader after verification, approves the payment whereby the traders' account will be debited and the Government's account with SBP will be credited through 1Link. As soon as the traders' account is debited, the system will send a message to WeBOC that the payment against the particular PSID has been received enabling the traders to get their goods released.

The proposed mechanism will benefit in multiple ways i.e. compliance of WTO's agreement by Customs, reduction in the cycle of realization of revenue receipts in Government Treasury, convenience to the traders, prevention of leakages in the system and facilitation in the forensic audit and traceability of transactions

2.3.6 Collection of E-Stamp Duty by Board of Revenue Sindh (BOR)

SBP is also supporting the Board of Revenue Sindh project for shifting to e-Stamping like Punjab did last year. In this regard, BOR has developed the conceptual framework with the technical help of e-governance team of NADRA, and also developed online property valuation and tax calculator with other features on website. Currently, BOR is under discussion with relevant authorities in reforming legal framework to provide legal backup to the new payment mechanism.

2.3.7 Elimination of Cheques in Government Payments

In coordination with Financial Accounting & Budgetary System (FABS) of Controller General of Accounts (CGA), SBP has initiated a project to gradually eliminate the paper instruments (cheques) from government payments. Under the proposed system, AGPR/accounting offices would prepare bank wise payment details of beneficiaries on message type MT-102 format and place the same at SBP Data Acquisition Portal (DAP); the SBP after necessary authentication would process the message file through RTGS. As a result, accounts of all the beneficiaries would be credited on real time basis by the respective banks through straight through processing (STP). The pilot for this project is expected to be completed during FY18 in Islamabad after which it will be gradually rolled out across the country.

2.4 Implementation of Currency Management Strategy

The first phase of the Currency Management Strategy introduced in August 2015, was implemented during the year whereby banks started disbursing machine authenticated cash (Rs500 and above denominations) in 30 big cities. These cities host 73 percent of banks' branches, 71 percent of ATMs and 88 percent of deposits. As at the close of FY17, a total of 1,443 desktop note sorting machines were installed in banks and 8,687 bank branches in the 30 big cities were issuing machine authenticated banknotes. The second phase of the strategy will be implemented from January 2, 2018 across the country. This would almost eliminate the possibility of issuance of any counterfeit banknote from banking system besides improving the quality of banknotes in circulation. SBP during the year also issued banknotes packing guidelines to standardize the banknotes packets and bundles, which is necessary for promoting interbank exchange of cash. A platform for interbank exchange of cash was also introduced during the year enabling banks to place their surplus cash in the interbank cash market or meet their cash needs from the market. In case the requisite cash is not available in the interbank market, the SBP-BSC will provide the cash. Similarly if the surplus cash could not be absorbed by the interbank market, the same is deposited with SBP-BSC against payment of fee.

2.4.1 Issuance of Banknotes with Enhanced Security Features

The SBP during the year started issuing higher denomination banknotes (Rs500 and above) with enhanced security features. The enhancement in the security features of higher denomination banknotes was part of the SBP currency management strategy and is aimed at keeping the security feature of the banknotes at par with the advancements in banknotes printing technologies. These were also necessary to align the security feature with the ongoing drive to automate the currency management functions in the banking industry. The new higher denomination banknotes have enlarged Optical Variable Ink (OVI) flag and crispier feel and look due to varnishing.

2.4.2 Demonetization of Old Design Banknotes

The old design banknotes of Rs 10, 50, 100 and 1000 were demonetized during the year after approval by the Federal Government. These old designed banknotes ceased to be legal tender and exchangeable from commercial banks with effect from December 1, 2016. The SBP-BSC field offices will however continue to exchange the old design banknotes from general public till December 31, 2021. An extensive awareness campaign was run through electronic and print media to inform the general public to get their old design banknotes exchanged from commercial banks by November 30, 2016. The public awareness campaign included the following measures:

- Advertisements in national and local newspapers of different languages as well as magazines
- Telecast of video message on satellite Television channels, social media and within premises of banks' branches
- Broadcast of audio message through radio channels
- Display of posters at public places and banks' branches
- Display of message on banks' ATMs and websites
- Distribution of leaflets at public places and banks' branches

2.4.3 Acquisition of Pakistan Security Printing Corporation (PSPC) by SBP

The SBP has acquired the currency business (banknote and prize bonds) of Pakistan Security Printing Corporation from Government of Pakistan as per "Share Purchase Agreement (SPA)" executed between Finance Division and SBP in June 2017. The acquisition would entail following benefits to SBP:

- Effective and enhanced control over the full spectrum of banknote printing enabling SBP to introduce such security features in banknotes as may be needed to protect the integrity of banknotes.
- Efficient conceptualization of decisions and their executions, particularly in introduction and deployment of state of the art banknote printing technology and for expansion of production capacity.
- Administrative ease in resolution of operational issues and effective coordination.
- Better control over operations and security environment of banknote printing, safe keeping and transportation of banknotes from printing press to SBP.
- Overall efficiency gains due to an independent workload analysis and Business Process Reviews (BPR).

2.5 Going Forward

Due to rapid technological progress, the global payment landscape is transforming very rapidly. New payment methods coupled with ubiquitous technology and faster payment processing infrastructure are enabling both businesses and consumers to accept and make payments from the comfort of their homes and offices. Following the global trends, the payment systems landscape in Pakistan has also transformed rapidly during last 6-7 years with stellar growth in payment cards, mobile, internet banking transactions, etc. This reflects growing acceptability and tendency of the market to absorb such innovative products. The need of the hour is to capitalize on the technological innovation to develop products that suit the market needs and enhance customer facilitation. The initiation of projects like development of National Payment Gateway, online collection of taxes and duties and elimination of cheques from government payments will have far reaching implications on banking system efficiency, effectiveness and access. Similarly the initiation of domestic payment schemes would give flip to SBP efforts to promote e-payments in the country.

Notwithstanding, the highly positive outlook for growth of electronic and digital payments, the cash is going to stay in the foreseeable future. The SBP thus along with promotion of electronic and digital payments would also ensure adequate availability of good quality banknotes across the country. The implementation of currency management strategy across the country in 2018 will totally transform and automate the cash management function making it efficient and cost effective besides enhancing the system's ability to ensure the integrity of its banknotes.