

Financial Market Infrastructures

The Financial Market Infrastructures (FMIs) remained robust and continued to provide payment and allied services in a smooth manner during CY24. Pakistan Real-time Interbank Settlement Mechanism (PRISM) transactions showed growth both in volume and value terms. The services of PRISM were available throughout the period under review without any disruptions. The e-banking continued to be a major driver behind retail payment growth. Raast reached the milestone of processing approximately 800 million transactions worth Rs 18.5 trillion via its three modules which stayed operational without any disruptions. The performance of National Clearing Company of Pakistan and Central Depository Company (CDC) remained steady throughout the year under review. These institutions took various measures including conducting business continuity exercises to maintain their operational resilience in unanticipated scenarios.



8 Financial Market Infrastructures

Financial Market Infrastructures (FMIs) play a key role in operational resilience and stability of a financial system. Uninterrupted flow of services is essential for settling large value and retail payments, securities trading, and clearing processes¹. FMI in Pakistan consists of a) Large Value Payment System (LVPS) i.e., Pakistan Real-time Interbank Settlement Mechanism (PRISM), b) Retail Value Payment System (RVPS), which includes Raast, c) Interbank and ATM switch i.e. 1-Link, d) a clearing house for paper based instruments i.e., National Institutional Facilitation Technologies (NIFT), e) a corporate securities settlement company i.e., National Clearing Company Limited (NCCPL), and f) a corporate securities depository i.e., Central Depository Company (CDC).

Financial market infrastructure is an important component of a country's financial system. They consist of essential institutions, instruments, and channels that promote financial intermediation by processing and recording the movement of funds, instruments and securities. As a result, the overall stability of the financial system is heavily reliant on its efficiency and resilience.

8.1 Payment Systems and their Performance

The national payments system comprising the Large Value Payment System (LVPS) and Retail Value Payment System (RVPS) posted double-digit growth in volume and value terms during CY24. SBP played a key role in ensuring the flow of services without any major disruptions. The growth in retail transactions was driven by e-banking showing increase in consumer preferences towards digital modes due to their ease, cost-effectiveness, and efficiency. In volume terms, the share of paper-based transactions in the overall retail payment profile has been receding in last five years. A similar

trend was visible in the period under review where paper-based transactions have posted a meager growth of 0.3 percent in volume terms (**Table 8.1**).

Profile of Payment System Mechanisms **Table 8.1**

Volume in millions, Value in trillion Rupees, Growth in Percent					
Mechanism	Volume / Value			Growth	
	CY22	CY23	CY24	CY23	CY24
a. PRISM					
Volume	5	5	6	19.9	12.7
Value	647	827	1,180	27.7	42.7
b. Retail Payments (i+ii)					
Volume	2,200	2,779	3,566	26.3	28.3
Value	365	485	543	32.8	11.9
i. Paper Based					
Volume	382	377	378	-1.2	0.3
Value	208	278	278	33.5	0.1
ii. E-Banking					
Volume	1,840	2,401	3,188	30.5	32.8
Value	157	207	265	32.1	27.8

Source: State Bank of Pakistan

PRISM handled higher value and volume of transactions

PRISM, the Real Time Gross Settlement System (RTGS), operated by SBP offers a powerful mechanism for providing settlement in real time on gross basis, thus minimizing systemic risks.²

PRISM transactions dominated the overall payment system, accounting for 68.4 percent of the total value, as it is classified as a large-value payment system. PRISM experienced significant growth, with an increase of 42.7 percent in value and 12.7 percent in volume during CY24. Detailed analysis reveals that a large portion of PRISM transactions was driven by settlements of securities, which comprised 71 percent of transactions in terms of value during the reviewed period. This was followed by inter-

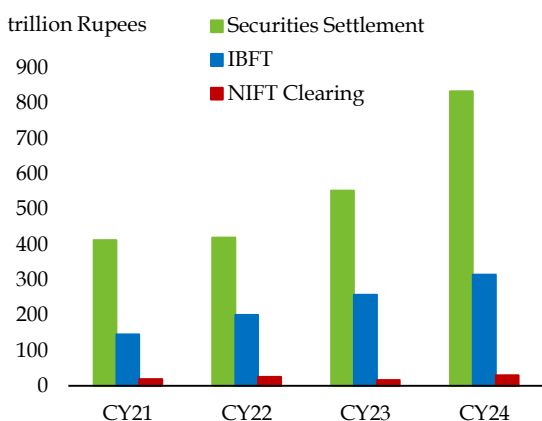
¹ FMI is defined as a multilateral system among participating financial institutions, including the operator of the system, used for the purposes of recording, clearing, or settling payments, securities, derivatives, or other financial transactions.

[Principles for financial market infrastructures - consultative report, March 2011](#)

² It minimizes settlement risk for financial transactions in the inter-bank market.

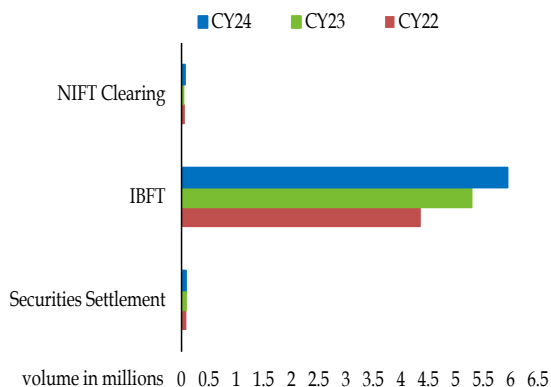
bank fund transfers (IBFT) accounting for 27 percent of transactions. In value terms, Security settlements rose by 50.9 percent, while IBFT grew by 22.2 percent in CY24 on YoY basis (**Figure 8.1a**). However, in terms of volume, PRISM transactions were mainly driven by inter-bank funds transfers, which represented 97.8 percent of the total volume. Securities settlements increased by 4.9 percent, while IBFT grew by 12.4 percent in volume terms (**Figure 8.1b**). It is noteworthy that the operational efficiency and continuous availability of PRISM was ensured through robust business continuity planning.

Profile of PRISM Transactions - Value Figure 8.1a



Source: State Bank of Pakistan

Profile of PRISM Transactions - Volume Figure 8.1b

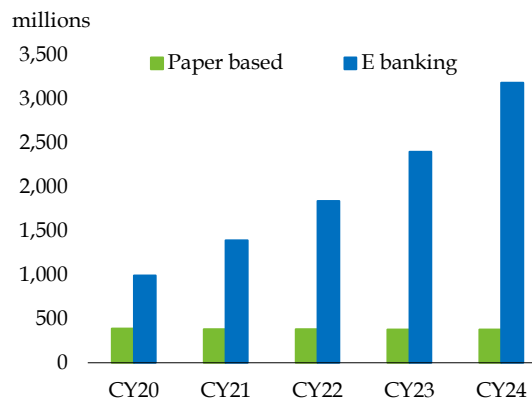


Source: State Bank of Pakistan

Retail transactions continued their growing momentum with e-banking modes dominating in volume; while paper based dominating in value...

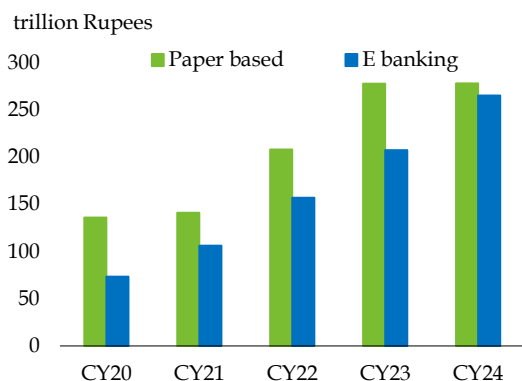
Retail payments have maintained their growing momentum by posting a growth of 28.3 percent and 11.3 percent in volume and value terms, respectively, during CY24. The volume of retail payments is dominated by e-banking, as its share has consistently increased to 89.3 percent in CY24 from 71.8 percent in CY20. This share is a reflection of consumers' preferences towards digital modes, as a variety of digital financial services became available to them. Further, the number of financial institutions offering internet and mobile banking have also increased to 32 over last few years. Accordingly, this factor has also contributed to the rising use of digital modes of transactions. Moreover, the share of e-banking transactions in total value of retail payments has also increased to 48.8 percent by the end of CY24 from 35.0 percent in CY20 (**Table 8.1 and Figure 8.2a&b**). However, for relatively larger size retail transactions, paper based modes still dominated retail payments, which recorded a muted growth of 0.1 percent in value terms.

Profile of Retail Transactions - Volume Figure 8.2a



Source: State Bank of Pakistan

Profile of Retail Transactions - Value Figure 8.2b



Source: State Bank of Pakistan

The share of *e*-banking has been on the rise due to multiple initiatives taken by SBP for digitization under the umbrella of National Payment System Strategy launched in 2019 as well as various National Financial Inclusion Strategies (NFIS) such as that of 2015–18 and 2018–23, with the aim of bringing retail payment system at par with international best practices. This vision is being further strengthened by launch of NFIS 2024–2028, which has set the goal for *e*-payments transactions to reach more than 80 percent of total payments by June 2028. The strategy emphasizes the need for enhancing digital payment ecosystem by tapping under-served areas and enabling merchant payments via Raast P2M.

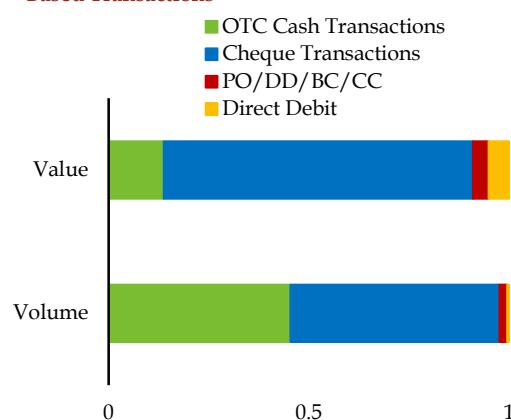
Although it offers convenience to the wider economy, the increasing usage of *e*-payments could also trigger various risks such as unauthorized access, malware, phishing scams, and vishing scam (e.g., voice phishing). In order to address these risks, SBP has rolled out a detailed set of guidelines on enhancing security of digital banking products and services. These guidelines require banks to formulate a Digital Fraud Prevention Policy³ to manage digital fraud risk. Further, SBP has instructed financial institutions to send transactional alert push

notifications instead of message alerts to reduce frauds via text messages in digital payments.⁴

With declining share in volume of overall retail payments, paper-based transactions are dominated by cheque payments and OTC transactions

As a share in total volume of retail payments, paper based transactions continued to follow a downward trajectory. The disaggregated data shows that paper based transactions are dominated by cheque based instruments having a share 52.1 percent in volume and 77.2 percent in value of paper based transactions. This shows usage of large value payments through paper based modes. The second most favored mode was the OTC cash transactions with share of 45.5 percent and 13.7 percent in volume and value of paper based transactions, respectively (Figure 8.3).

Value- and Volume-wise Paper Based Transactions Figure 8.3



Source: State Bank of Pakistan

e-banking transactions maintained their strong growth momentum ...

e-banking transactions grew by 32.8 percent and 27.8 percent in volume and value, respectively, during CY24. This growth largely came from usage of mobile and internet banking by

³ BPRD Circular No. 04 of 2023 available at: <https://www.sbp.org.pk/bprd/2023/C4.htm>

⁴ PSP&OD Circular No 01 of 2024 available at: <https://www.sbp.org.pk/psd/2024/C1.htm>

customers due to their cost effectiveness and convenience.

Detailed data of e-banking transactions shows that in terms of volume, mobile banking has the largest share i.e., 44.0 percent, followed by ATMs with 30.9 percent. Mobile banking improved its share to 44.0 percent in CY24 from 36.0 percent in CY23.

However, in terms of value of transactions, e-banking, which is typically dominated by Real Time Online Branches (RTOB), witnessed fall in its share to 58.0 percent in CY24 from 67.3 percent in CY23 since mobile banking captured some of its share. Likewise, the share of internet banking improved to 11.6 percent from 9.5 percent in the same period last year (8.4a and 8.4b).

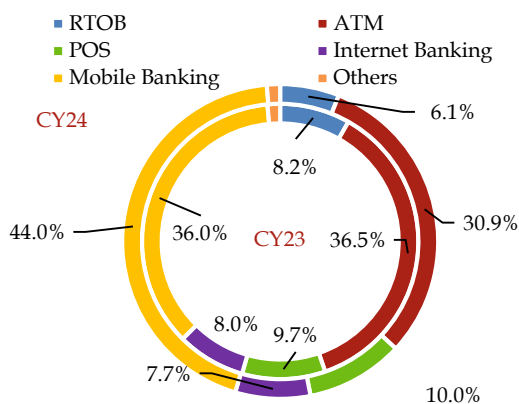
Raast

Raast is SBP’s flagship initiative to revolutionize digital payments in domestic market. Raast has successfully completed its third year of uninterrupted services for digital payments. It is a revolutionary step in the payment system landscape for the country as it has expanded the drive for digitization and plays a key role in the formalization of the economy. So far, three modules have been successfully made operational i.e., Government to Person (G2P), Person to Person (P2P), and Person to Merchant (P2M). It aims to transform the Pakistani financial landscape by providing an instant, secure, and cost-effective platform for digital payments among individuals, merchants, businesses, and government entities.

Within Raast, various initiatives have been taken under each use case to enhance the digitization of payments. Under bulk disbursements, Raast has partnered with CDC to facilitate and execute dividend payments promptly. Furthermore, the disbursement of government salaries, GP funds, and pension payments was integrated with Raast for efficient, cost-effective, and uninterrupted provision of funds. Raast platform is also used for profit payments on and encashment of investments from CDNS. Raast has also contributed in reducing seasonal spikes of currency in circulation. For instance, on the occasion of Eid-ul-Azha during CY24, an extensive campaign was launched to onboard cattle owners, where RAAST QR codes were used for payments.

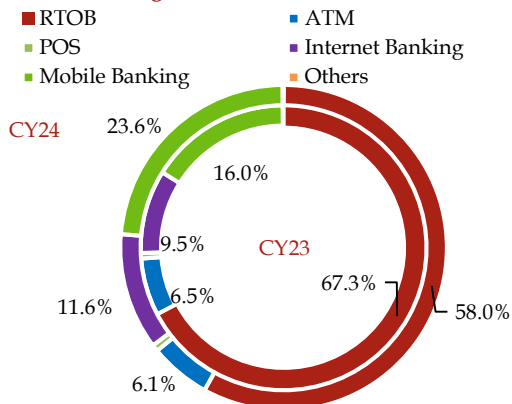
Raast handled around 800 million transactions, amounting to Rs 18.5 trillion in CY24, which is much higher than around 300 million transactions with the value of Rs 6.3 trillion in CY23. In the last quarter of CY24 alone, bulk payment transactions and P2P transactions grew by 68.2 percent and 49.7 percent in volume, respectively. While in value terms, bulk

Instrument-wise Share in Total Volume of E-banking Transactions **Figure 8.4a**



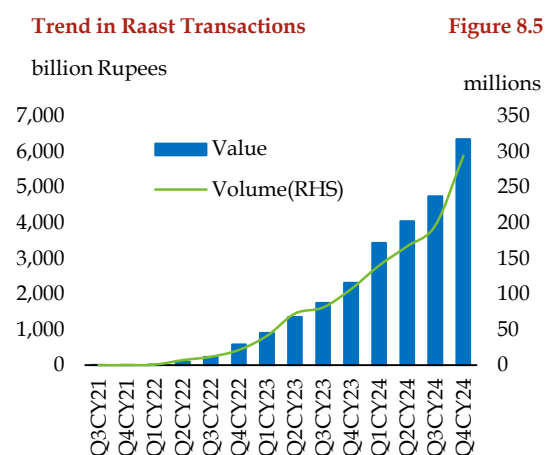
Source: State Bank of Pakistan

Instrument-wise Share in Total Value of E-banking Transactions **Figure 8.4b**



Source: State Bank of Pakistan

payment transactions showed a remarkable surge from around Rs 100 billion to Rs 224 billion whereas P2P transactions grew from Rs 4.65 trillion to Rs 6.14 trillion in the last quarter of CY24. Detailed data reveals that the total momentum in Raast transactions is primarily due to the successful introduction of the P2P module in Raast ecosystem in February 2022, and its wide adoption by the market. P2P contributed 99.6 percent in terms of volume and 97.3 percent in value in total Raast transactions. Importantly, Raast continued its functioning without any interruptions throughout the year while handling the increasing value and volume of the transactions (**Figure 8.5**).



Source: State Bank of Pakistan

Raast-Buna integration for cross border payments...

In order to facilitate cross-border remittances between the Arab region and Pakistan, SBP has signed a Memorandum of Understanding (MoU) with the Arab Monetary Fund to enable the integration of Raast with Buna.⁵ Accordingly, Pakistani rupee has been added as a settlement currency in Buna. This development is a major landmark in enabling cross-border payments, streamlining

remittances, and increasing regional integration. This will enable faster, cost-effective, and secure international payments between two regions.

Furthermore, NFIS 2024-2028⁶ envisions Raast playing an important role in improving the country's digital financial landscape by encouraging retail payments via Raast P2M. This would allow retailers to make free payments via such Raast features as QR codes and Request to Pay.

e-banking infrastructure

The e-banking infrastructure showed growth in terms of number of online branches, ATMs and POS. Within the payment cards category, both credit and debit cards showed growth in CY24, which was in line with the rising number of bank accounts during the reviewed period (**Table 8.2**).

E-Banking Infrastructure **Table 8.2**

Description	CY21	CY22	CY23	CY24
Online Branches	16,571	17,005	17,625	18,945
ATMs	16,709	17,547	18,117	19,519
POS	92,153	108,899	118,444	151,646
Total Payment Cards of which:		Number in thousands ('000)		
Credit Cards	1,740	1,914	2,070	2,151
Debit Cards	30,934	32,524	35,113	49,587
Social welfare cards	11,096	10,160	8,406	4,546
Prepaid Cards	125	99	91	93

Source: State Bank of Pakistan

Increased use of digital modes of payments raises cyber security risks ...

The cyber threat landscape is rapidly evolving with increased frequency and sophistication of cyber incidents, and the threat actors are becoming more active in targeting the financial sector. A particular concern is the increased threat from third party-arrangements for provision of services. In view of the foregoing, the cybersecurity risk is one of the prominent risks faced by the domestic financial sector, and

⁵ SBP Press release available at : <https://www.sbp.org.pk/press/2023/Pr-03-Nov-2023.pdf>

⁶ NFIS 2024-2028 available at : <https://www.sbp.org.pk/nfis/nfis2024-28.pdf>

the said risk was also identified among the top five prevailing risks to financial stability in the 15th wave of SBP's Systemic Risk Survey (see **Box 1 in Overview Chapter**).

The trend of the cyber incidents and their complexity demand the enhancement in cyber fortification measures of the financial sector. In response, SBP has taken several measures to improve the cyber security posture of the regulated entities. These include enhancing cyber security related regulatory requirements and guidance, implementation of the cyber incident response mechanism for the banking industry, proactive circulation of cyber threat advisories, enhanced cyber risk supervision related measures, and cyber hygiene self-assessments of the SBP regulated entities, etc. Moreover, SBP has recently established a dedicated department for the proactive supervision of cyber risks. The said department is working to further enhance the cyber defense mechanism of regulated entities by improving the cyber threat intelligence and incident response mechanism, cyber risk supervision, and implementing international best practices on the subject.

Branchless banking continued its momentum

Branchless banking plays a pivotal role in extending formal financial services to underserved areas. It uses the branchless banking agent-model to maximize its outreach to far-flung areas, where it is not feasible to open bank branches. Branchless banking transactions increased by 38.3 percent in volume and 42.2 percent in value in CY24. The deposit base of branchless banking expanded by 48.0 percent on YoY basis, reaching an all-time high of Rs 171 billion in CY24 (**Table 8.3**).

Key Highlights of Branchless Banking

Table 8.3

Description	CY21	CY22	CY23	CY24
No. of Agents	587,547	622,884	649,683	708,559
No. of Accounts	78,810	97,097	114,643	90,302
No. of Active Accounts	44,905	42,484	64,122	61,441
Deposits at period end (million Rupees)	65,580	88,488	115,409	170,879
No of transactions (million Rupees)	2,501	3,049	3,938	5,449
Value of Transactions (billion Rupees)	8,971	12,602	18,182	25,847
Average Daily Transactions (thousands)	6,948	8,471	10,939	15,135
Average size of transactions (Rupees)	3,577	4,129	4,828	4,749
Average Deposit in accounts (Rupees)	799	911	1,007	1,348

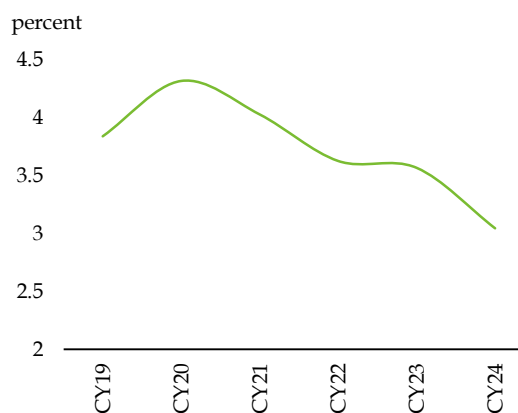
Source: State Bank of Pakistan

ATM Efficiency

ATMs are one of the most important Alternative Delivery Channels (ADCs) in the FMIs. ATMs hold second largest share in volume of e-banking. Therefore, it is important to keep them functioning without any prolonged or unanticipated interruption to enhance users' trust in banking services. ATM downtime has further reduced to 3.0 percent of activity time in CY24, which is the lowest in previous five years in the comparable period (**Figure 8.6**).

ATM Downtime

Figure 8.6



Source: State Bank of Pakistan

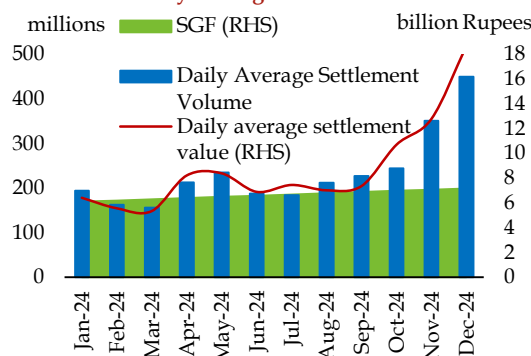
8.2 FMIs other than Payment Systems

NCCPL

The National Clearing Company of Pakistan Limited (NCCPL) is a critical component of FMIs to ensure that Pakistan's capital markets run smoothly. It plays three key roles. First, it serves as the central counterparty for all deals conducted on the Pakistan Stock Exchange (PSX). It ensures the settlement of all deals that take place, lowering counterparty risk. Second, it is in charge of ensuring the seamless electronic transfer of security and payments between trading partners. Finally, it serves as the Centralized Know-Your-Customer Organization (CKO) for all capital market participants. Moreover, it offers nationwide custodial services, which include custody and asset servicing for investor securities.

NCCPL has multiple risk-mitigating measures in place which include maintaining a settlement guarantee fund (SGF). Under SGF, participants regularly contribute towards a pool of money, depending on their risk profile and trading activity, so that financial losses could be covered in case a member defaults on his obligations. The fund stood at Rs 7.2 billion at the end of December 2024. The daily average settlement value stood at Rs 8.8 billion in CY24 compared to Rs 4.3 billion last year. Further trading volume increased from 146 million transactions in last year to 236 million in CY24 (Figure 8.7).

Comparison of Settlement Guarantee Fund with Daily Average of Settlement Figure 8.7



Source: National Clearing Company of Pakistan Limited

NCCPL conducted live business continuity drill

NCCPL held a full live business continuity drill which covered all existing business services as well as newly implemented aspects such as the integration of its core clearing, settlement, and risk management systems with WhatsApp Services, Margin Trading System, 24/7 Online Accounts Processing Facility, and NCC Bio-Verify App.

The primary goal of the drill was to examine the NCCPL's ability to handle unexpected events or disruptions. The organization assessed its ability to provide continuous services to its clients and stakeholders by modelling real-world events.⁷

Central Depository Company (CDC)

CDC serves as Pakistan's primary securities depository. It enables the electronic settlement of transactions on the PSX and provides additional services for stock, debt, and other financial instruments. The company offers depository services, which include holding securities online for investors, eliminating the need for physical certificates. It serves as a central party, ensuring that both sides of a transaction are met. Finally, CDC keeps investor data and facilitates the transfer of ownership of shares purchased and sold.

⁷ NCCPL press release (June 23, 2023) available at : [The National Clearing Company of Pakistan Limited Successfully Conducted Live Business Continuity Drill to demonstrate Resilience and Preparedness of its business systems - NCCPL](#)

As a major provider of Trustee and Custodial services to the Mutual Fund industry, CDC is continuously evolving its service capabilities and taking initiatives to explore new technical advances in the financial industry for the benefit of the sector. In this regard, CDC coordinated with State Bank of Pakistan and utilized its Raast “Person to Person (P2P)” service to enable a free of cost payment channel for mutual fund investors. CDC, acting as a payment aggregator, can generate Raast Investment IDs for asset management companies’ clients on an IBAN format against a specific fund. The AMC client can then use this Investment ID to invest in their selected fund at any time through their internet banking portal.

SBP has granted CDC the special privilege of assigning the code “CDCPL” in the Raast system to enable this process. To date, the facility has been availed by 08 AMCs, and has gained traction among their investors with a total of 1.37 million Raast Investment IDs generated for a cumulative investment in excess of Rs 9 billion.

CDC has successfully tested a distinctive scenario in its Business Continuity Planning regime, demonstrating the durability of its data centers. The exercise verified that either the primary or secondary data center can seamlessly publish all technical and business services, in any unforeseen event of unavailability of single data center. This exercise demonstrates robust operational risk management regime, ensuring its uninterrupted services for its stakeholders.⁸

⁸ CDC Annual Report 2024 available at: [CDC – Central Depository Company](#)