

Payment and Settlement Systems

12.01 At the onset of the COVID-19 pandemic, to ensure 'social distancing', Government of Bangladesh (GoB) imposed a countrywide shutdown including movement restrictions, except for some activities related to essential and emergency services. Countrywide shutdown in the containment of COVID-19 has not only intruded on the spread of COVID-19 but also adversely affected supply-chain and overall economic activities. In such dejection, payment and settlement systems, especially the digital payment platforms played a significant role to keep the economy active and enabling the economy to remain resilient.

12.02 Indeed, a well-functioning and efficient payment system is indispensable for an economy. It supports the financial activities of individuals and corporates, and thereby props up financial intermediation through facilitating the payment and settlement of transactions among participants at an affordable cost. Any failure or disruption in the payment system could destabilize financial markets and cause widespread economic disruption. Therefore, as a regulator of the financial system, Bangladesh Bank (BB) is vigilant for the smooth functioning of the payment ecosystem of the country through formulating effective regulations and ensuring a congenial atmosphere for all concerned stakeholders, even amid the pandemic.

12.03 Against this backdrop, this chapter discusses the performance of the payment and settlement systems of Bangladesh during FY21. It also delivers different measures taken by the Payment Systems Department (PSD) in the stated period.

Payment Systems

12.04 The digital payment systems (i.e., mobile financial services and inter-bank payment systems) registered a hefty growth during FY21. In terms of volume and value, in FY21, digital payments grew by 31 percent and 35 percent respectively compared to those in FY20 (Appendix-3, Table XXIII). Growth of the volume is largely attributable to paper-less transactions, such as internet banking fund transfer (IBFT), Bangladesh electronic funds transfer network (BEFTN) and real time gross settlement (RTGS). In the case of value, the growth is mostly amplified by IBFT, e-commerce transactions, and BEFTN. Paper-less digital payments are also increasing in an accelerated rate compared to that of paper-based transactions (e.g., BACPS) (Appendix-3, Table XXIII). The development of a favourable digital payment ecosystem and the countrywide movement restrictions in varying intensity to encounter the COVID-19 pandemic all over the year supported the increase of the uses of all major modes of digital payment systems, especially the paper-less methods.

12.05 Meanwhile, depth of the digital payments (i.e., inter-bank digital transactions and mobile payments) has engraved further. Retail transactions (i.e., regular value cheques; ATM, POS, e-commerce, internet banking, and electronic fund transfers), high value transactions (i.e., high value cheques, and (RTGS), and mobile payments/e-money transactions showed increased velocities in terms of narrow money (M1), and gross domestic product (GDP). During FY21, digital

payments rolled-over the narrow money for 16.4 times compared to that of 14.9 times in FY20. At the same period, size of the digital payments was 1.6 times of GDP compared to that of 1.3 times in the previous year. Higher roll-over of money envisages efficiency of payment system and augmented economic activities, which supports the effective and efficient formulation and implementation of monetary policy (Table 12.01).

12.06 Notably, intra-bank digital payments are markedly larger than the inter-bank transactions. Internet and apps-based transactions within banks largely increased during the period.

Bangladesh Automated Clearing House

12.07 Involving two payment wings, namely Bangladesh Automated Cheque Processing Systems (BACPS) and Bangladesh Electronic Funds Transfer Network (BEFTN), Bangladesh Automated Clearing House (BACH) offers inter-bank payment services. Both the systems operate in batch processing and deferred net settlement (DNS) mode. The central BACH system receives transactions (through instruments or instructions) from the member banks on 24/7 basis while these are processed and settled at a pre-fixed time. After each clearing cycle, a single multilateral netting figure on each participating bank is settled by posting it to their respective current accounts maintained with Bangladesh Bank.

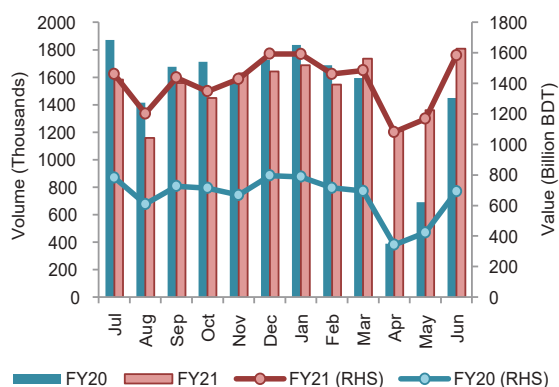
12.08 Using the cheque imaging and truncation (CIT) technology for clearing the paper-based instruments (i.e., cheque, pay-order, dividend, refund warrants, etc.), BACPS brings countrywide several conventional physical clearing-houses into a

Table 12.01 Depth of Digital Payments in Bangladesh

Item	(Value in billion BDT)					
	Value		M1 (Value/M1)		GDP (Value/GDP)	
	FY20	FY21	FY20	FY21	FY20	FY21
Retail transactions	12422	15795	2845	3481	27393	30111
High value transactions	25657	34992	2845	3481	27393	30111
MFS/e-money transactions	4246	6236	2845	3481	27393	30111
Total digital payments	42325	57023	2845	3481	31705	35302
			(14.9)	(16.4)	(1.3)	(1.6)

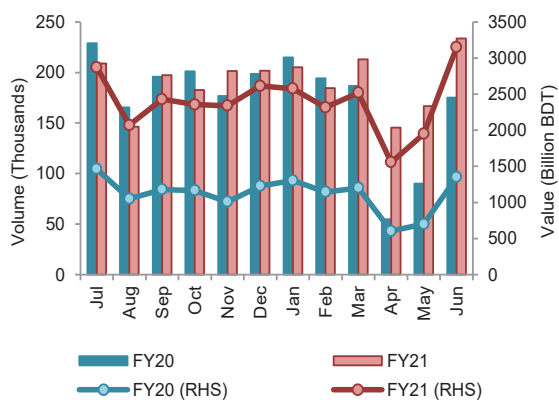
Source: Payment Systems Department and Statistics Department, Bangladesh Bank.

Chart 12.01 Regular Value Cheque Transactions



Source: Payment Systems Department, Bangladesh Bank.

Chart 12.02 High Value Cheque Transactions

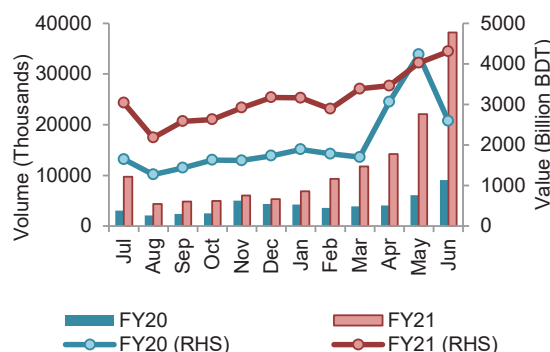


Source: Payment Systems Department, Bangladesh Bank.

single clearing and settlement platform. During FY21, 18,373 thousand regular value instruments were cleared valuing BDT 8,887.8 billion, which grew by 4.3 percent and 11.8 percent respectively as compared to those in FY20. On the other hand, 2,287 thousand high-value instruments valuing BDT 15,348.0 billion were cleared in FY21, which grew by 9.8 percent and 14.6 percent respectively as compared to those in FY20. Higher growth in the value of instruments compared to the growths of the volume in both windows of BACPS show the consistent market responses with the expansionary and accommodative monetary policy stances during the prolonged pandemic (Chart 12.01 and 12.02).

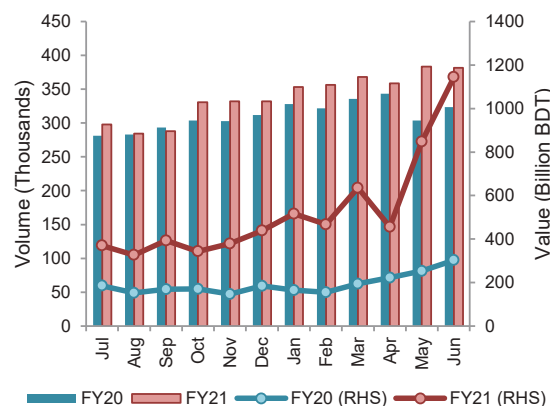
12.09 Being a paperless, cost-effective, secured, and efficient payment method; BEFTN settles a wide range of credit transfers (e.g., salary payments, foreign and domestic remittances, social safety net payments, interest and principal payment of national savings certificates, company dividends, retirement benefits, etc.), and debit transfers (e.g., utility bill payments, loan repayments, insurance premiums, corporate to corporate payments, etc.). A total of 1,37,652 thousand credit transfers valuing BDT 3,774.4 billion were settled during FY21, which grew by 172.9 percent and 53.5 percent respectively as compared to FY20. On the other hand, a total of 4,066 thousand debit transfers valuing BDT 631.5 billion were settled during FY21, which grew by 8.9 percent and 175.0 percent respectively as compared to those in FY20. Huge growth in the volume of credit transfers is mainly attributable to the transfer payments of the Government, especially to support households amid the restrictions for the COVID-19 pandemic. On the other hand,

Chart 12.03 BEFTN (Credit) Transactions



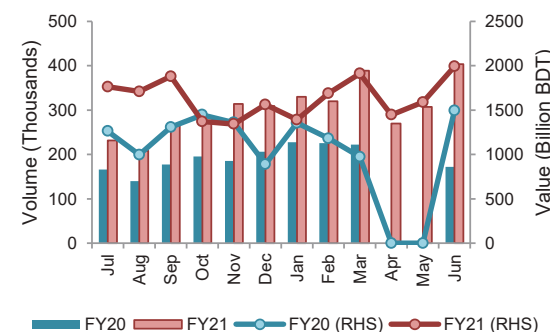
Source: Payment Systems Department, Bangladesh Bank.

Chart 12.04 BEFTN (Debit) Transactions



Source: Payment Systems Department, Bangladesh Bank.

Chart 12.05 RTGS Transactions



Source: Payment Systems Department, Bangladesh Bank.

tremendous growth in the value of debit transfers is due mainly to the payments of loan

instalment by the individuals during the movement restrictions (Chart 12.03 and 12.04).

Real Time Gross Settlement System

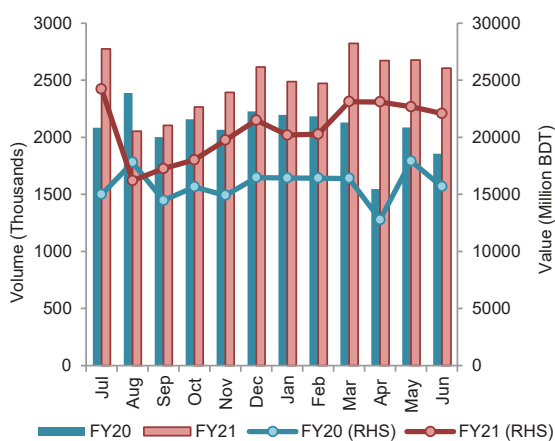
12.10 Delivering instant settlement facilities to large-value and time-critical payments, RTGS is fostering the velocity of money as well as economic activities of the country. As of June 2021, 10,793 online branches of 58 scheduled banks are now connected to this system to settle high-value (BDT 1,00,000 or above transactions). Currently, the system is offering worthy features, such as VAT online payment, customs duty e-payment, automated *challan* payment, etc. Alongside the individual interbank transactions, the system also can settle all other DNS batches such as BACPS, BEFTN, and NPSB.

12.11 During FY21, 3,621 thousand transactions valuing BDT 19,644.3 billion were settled by RTGS, which grew by 88.7 percent and 60.2 percent respectively as compared to those in FY20. Despite a contraction in the value of RTGS transactions on account of tighter movement restrictions in April and May, in terms of volume and value, overall RTGS transactions increased sharply due mainly to its growing popularity among business houses and Government agencies (Chart 12.05).

National Payment Switch Bangladesh

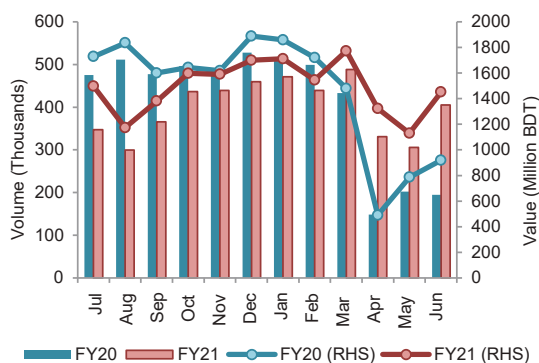
12.12 To facilitate interbank electronic payments originating from different alternative delivery channels, such as automated teller machines (ATM), point of sales (POS), internet, etc. BB introduced National Payment Switch Bangladesh (NPSB) on 27 December 2012. The main objective of NPSB is to act as a mother

Chart 12.06 ATM Transactions



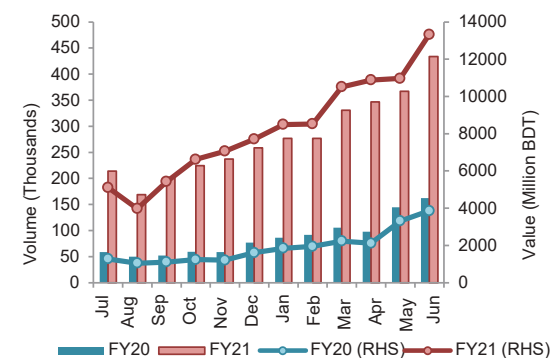
Source: Payment Systems Department, Bangladesh Bank.

Chart 12.07 POS Transactions



Source: Payment Systems Department, Bangladesh Bank.

Chart 12.08 IBFT Transactions



Source: Payment Systems Department, Bangladesh Bank.

switch and to connect gradually all child switches owned or shared by banks or a

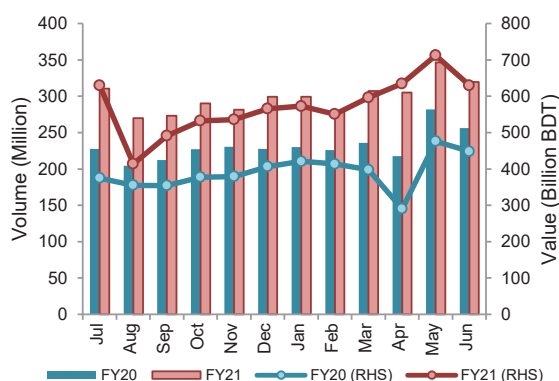
non-bank entity, and to create a common electronic platform for the payment switches in Bangladesh.

12.13 In terms of volume, 29,944 thousand ATM, 4,789 thousand POS, and 3,337 thousand IBFT transactions were settled during FY21, where ATM and IBFT transactions increased by 20.0 percent and 219.6 percent respectively, but POS transactions decreased by 4.0 percent as compared to those in FY20. However, in terms of value; ATM, POS, and IBFT transactions were increased to BDT 2,48,393.7 million, 17,874.1 million and 98,600.0 million at the same period, showing the increases of 31.0 percent, 2.0 percent and 332.5 percent respectively as compared to those in previous year (Chart 12.06, 12.07, and 12.08).

12.14 Amid the ongoing pandemic, hand-to-hand service deliveries were discouraged and service delivery time was curtailed. Instead, limit and number of transactions at the ATM booths have been increased. As a result, volume and value of ATM transactions increased significantly. Meanwhile, interbank fund transfers observed a whopping increase, due mainly to the movement restrictions and growing popularity in the adoption of digital lifestyle by the middle-class population. However, POS transactions registered a decrease in terms of volume and a trivial increase in value due to the shutdown or limited business activities by the shops and markets physically.

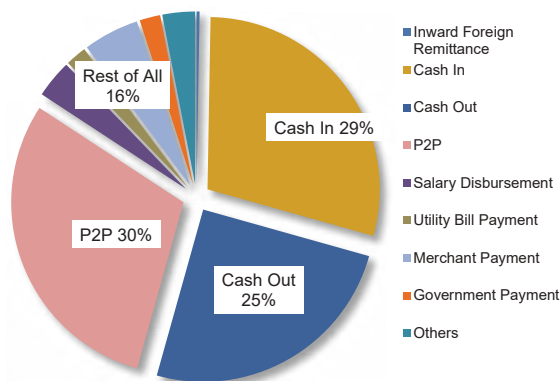
12.15 It is to mention that beyond NPSB, there are some other private and international switches, where ATM, POS, and e-commerce transactions are settled. Overall ATM, POS, and e-commerce transactions also increased during the period (Appendix-3, Table XXIII).

Chart 12.09 MFS Transactions



Source: Payment Systems Department, Bangladesh Bank.

Chart 12.10 Nature of Usage of MFS in June 2021



Source: Payment Systems Department, Bangladesh Bank.

Mobile Financial Services

12.16 Mobile financial service (MFS) has been playing a crucial role to attain the target of ‘Financial Inclusion for All by 2024’ by BB. Indeed, nationwide advancement in power connectivity, hasty growth of mobile phone users, digitisation of payment procedures and IT-based financial systems, augmented country-wide network coverage of mobile operators, and availability of internet throughout the country unwrapped the prospects of financial inclusion through MFS. With a simple account opening procedure, user-friendly

features, and cost-effectiveness, MFS in Bangladesh opened up the opportunity of access to payment and finance for the underserved, unbanked/under-banked, and a low-income group of population to reach the country's sustainable development goals (SDGs).

12.17 As of 30 June 2021, a total of 9 banks and 3 subsidiaries of 3 banks have been delivering mobile financial services. BB allows bank-led MFS providers only to operate in the country under some broad categories, such as:

- i. 'Cash-in' to and 'Cash-out' from MFS accounts through agent locations, bank branches, ATMs, linked bank account and other methods determined by BB;
- ii. Person to business (P2B) payments like utility bill payments, merchant payments, mobile top-up, deposits into savings accounts/schemes with banks, loan repayments to banks/ non-bank financial institutions (NBFIs)/ non-governmental organisations - microfinance institutions (NGOs-MFIs), insurance premium payments to insurance companies and so forth;
- iii. Business to person (B2P) payments like salary disbursements, dividend/refund warrant/ discount payments, etc.;
- iv. Person to person (P2P) payments (one MFS personal account to another MFS personal account with the same MFS or another MFS provider as well as the payments from one MFS account to a bank account and vice versa with the same parent bank or of another bank);
- v. Business to business (B2B) payments like vendor payments, supply chain management payments, etc.;

- vi. Online and e-commerce payments;
- vii. Government to person (G2P) payments such as pension payments, old-age allowances, freedom-fighter allowances, subsidy payments to farmers, and so forth;
- viii. Person to government (P2G) payments such as tax, fee, levy payments, toll charge, fine, etc.;
- ix. Disbursement of BDT against inward foreign remittances collected by banks;
- x. Loan disbursements to borrowers, vendor payments, etc.

12.18 At the end of June 2021, the number of agents and the number of registered customers of MFS increased to 1.1 million and 99.8 million respectively from 1.0 million and 88.7 million respectively in the previous fiscal year. During FY21, around 3,581.8 million transactions valuing BDT 6,236.2 billion were settled, which increased by 29.0 percent and 46.9 percent respectively as compared to the FY20 (Chart 12.09).

12.19 Increase in volume and value of MFS transactions are owed mainly to the paradigm shift of the nation in adopting digital payments. The sustained growth of the availability and accessibility of MFS in a favourable leeway helped to increase the usage of the service. Moreover, to reach the end-user directly, now Government of Bangladesh (GoB) prefers MFS to transfer various payments under the safety-net programme. It is to recollect that GoB has provided soft-loans to the export-oriented industries in FY20 to pay the workers' salaries, amid the pandemic, which was distributed only through the workers' bank account or mobile wallets. Furthermore, GoB has provided cash assistance to five million families who lost their

livelihood due to the COVID-19 pandemic through mobile wallets and four major MFS providers have been used as the distribution channel to reach the beneficiaries. All these issues surged the access and usage of MFS significantly.

12.20 The nature of the usage of MFS also shows a positive shift of the citizens towards digital payments. In the meantime, the reliability of mobile financial services resulted in increases in transactions within the same mobile operators and retaining money into MFS wallets. Chart 12.10 shows that in June 2021, the share of cash-out decreased to 25.0 percent from 30.0 percent in June 2020. On the other hand, the share of cash-in and P2P transactions increased to 29.0 percent and 30.0 percent respectively. The increases in the usage of MFS for merchant payments and utility bills resulted mainly in the decrease in cash-out and the increases in cash-in, and P2P transactions.

Alternative Delivery Channel and Licensing

12.21 To promote and ensure efficient, secured, and cashless payments in the country, BB issues licenses to FinTech businesses in two major categories, such as payment system operator (PSO), and payment service provider (PSP). Generally, PSPs deliver e-wallet services while PSOs provide merchant aggregation, merchant acquiring, white label ATM, payment gateway, and switching solution services. At present, five PSOs and four PSPs are fully operational and some others are remaining in different phases of licensing process.

Legal and Regulatory Framework

12.22 Bangladesh Bank is entrusted with the responsibility of managing and regulating the

country's payment systems and issuing rules, regulations, and guidelines thereto. Currently, BB regulates the payment system of the country largely through:

- A. Bangladesh Payment and Settlement Systems Regulations (BPSSR), 2014; and
- B. Guidelines on Mobile Financial Services (MFS) for the Banks, 2010 (Revised Version, 2018).

Consequently, Bangladesh Bank has published several legal and regulatory guidelines supporting both paper-based and electronic transactions within the country. The existing legal and regulatory frameworks of the payment and settlement system of Bangladesh are as follows:

- i. Bangladesh Automated Cheque Processing Systems (BACPS) Operating Rules and Procedures, 2010 (Revised Version, 2019).
- ii. Bangladesh Electronic Funds Transfer Network (BEFTN) Operating Rules, 2010 (Revised Version, 2020).
- iii. Bangladesh Real Time Gross Settlement (BD-RTGS) System Rules, 2015.

12.23 In this continuum, during FY21, some more guidelines/regulations were released to support growth of the economy and market demands, maintaining discipline in the payment systems, such as:

- i. Personal Retail Account Opening Procedure, 16 November 2020.
- ii. Guidelines for 'Bangla QR' Code-based Payments, 6 January 2021;

- iii. Guidelines for Trust Fund Management in Payment and Settlement Services, 06 May 2021;
- iv. Instructions for Distribution of Cash Received from the Value Declared Products/Parcels of the Licensed Courier Services through Banking Channel, 06 May 2021;
- v. Fund Release Policy for Digital Commerce Enterprises, 30 June 2021; etc.

12.24 Meanwhile, aiming to bring all kinds of payments by banks and non-bank financial institutions under the supervision of the BB, the 'Payment and Settlement Systems Act' has been drafted. As a bill, it has been approved in principle by the cabinet on 9 March 2021 and is impending to be placed to and enacted by the legislature.

12.25 Appositely, in the realm of global networking and connectivity, PSD closely works with relevant international associations to develop a safe, secured, and efficient national payments infrastructure adhering to the international best practices. It is essential to identify, mitigate and induce changes (if necessary) in financial market infrastructure to protect the country's payment systems from both internal and external shocks. In this consideration, with active support from the World Bank, BB has studied the country's financial market infrastructures (FMIs) and accomplished a self-check against the standard set in principle¹⁷ of FMI. Following the report, BB has already emphasized migrating to the new environment, increasing the capability of both human resources and software/hardware. BB is also working in assessing the vulnerability

of the FMIs, achieving certification, and putting a state-of-the-art monitoring system.

12.26 In tandem with growing transactions through different switches and channels, occasionally, disputes arise between banks. However, the nature of disputes is not widely varied. Disputes mainly take place on account of technical and operational errors. PSD offers dispute resolution and arbitration services to solve such issues to banks and participants.

Payment System Oversight

12.27 Aiming to perform supervision of payment, clearing, and settlement systems operated by the central banks and its participants around the country, BB sets up a separate 'Payment System Oversight' section. It also supervises all other non-bank payment institutions, such as MFS, PSPs, and PSOs functioning in the country. This section remains vigilant to achieve the objectives of the safety and efficiency of payment systems by monitoring and assessing existing and planned payment systems and by inducing policy changes when deemed necessary. In this trajectory, payment systems oversight focuses on the following activities:

- i. Collects onsite and off-site data from systems and participants regarding day-to-day operation; analyses financial flow and transaction pattern, risk exposures, risk management procedures, and practices; monitors back-up and business continuity plan; mitigates disruptions and disputes; etc.
- ii. Checks compliance of systems and participants with applicable rules and regulations identifies the gap and

- comes up with recommendations with time to time follow up;
- iii. Analyses the weakness of systems, participants, or schemes and identifies the areas that need improvements or intervention of BB;
 - iv. Facilitates 'self-assessment' of systems and participants based on regulatory requirements and international standards.

Regulatory Fintech Facilitation Office

12.28 Given the environment of radical changes, technological innovations, and complexities in economic activities around the globe, digital financial services are changing rapidly. Pertinently, digital financial innovation (i.e. Fintech) is playing a significant role to build digital financial infrastructure by creating new business models, providing financial inclusion through a new type of financial services. To materialise the benefit, it is immensely important to make coordination between innovation, risk, and policy measures. It is mandatory to consider and analyse the granular aspects of these innovative ideas so that people can avail the highest benefit from these fast-approaching Fintech within a proper regulatory framework.

12.29 In this course, Bangladesh Bank established regulatory Fintech facilitation office (RFFO) to facilitate and promote diverse Fintech initiatives with ingenuity. This office analyses the competencies and demands of the potential business models and innovations. In addition, it explores the suitability of different innovations and business models applying simulation and experiments in a controlled atmosphere. Apart from delivering regulatory

assistance to the new entrants, RFFO aims to expand its endeavors to develop harmony among banks, financial institutions, and other regulatory organisations in the realm of Fintech upheaval.

Strategic Plan 2020-2024: Advancements

12.30 Intending to develop a digitised, automated, knowledge-based, and customer-focused banking sector, BB is implementing its third Strategic Plan 2020-2024. Aligning with the vision, mission, and core values of BB, PSD sets two objectives comprising eight actions and thirteen key performance indicators for the given period. In particular, the objectives are (i) to improve the payment systems for increasing efficiency and reducing settlement risk, and (ii) to establish the necessary legal and regulatory framework for an efficient payment system.

12.31 By the end of December 2020, PSD aimed at establishing interoperability of payment infrastructure, enhancing RTGS coverage, establishing an innovative office, conducting self-assessment of payment systems participants, producing quarterly review papers on performance of payment systems, and automation of data collection and analysis concerning offsite oversight.

12.32 By the end of December 2020, PSD established all necessary infrastructures to facilitate interoperability for all kinds of financial services. Meanwhile, banking services and different payment methods are enjoying interoperability services. However, mobile financial services are at the edge of interoperability with some final internal brush-ups. Pertinently, RTGS coverage has been enhanced and reached the furthest bank branches of the country. At the end of June 2021, 96.0 percent of bank branches of the

country have come under the RTGS coverage (i.e., 10,346 bank branches among 10,793 branches provide RTGS service). Moreover, by the end of December 2020, an innovative office in the name of RFFO has been established, and self-assessments of payment systems participants have been performed. Regularly PSD is producing quarterly review papers on the performance of payment systems. However, the target for automation of data collection and analysis for offsite oversight has partially been achieved due to the limited activities in financial institutions amid the COVID-19 pandemic.

12.33 In brief, Bangladesh Bank is continuously engaged in modernizing the payment landscape of Bangladesh by introducing state-of-the-art payment platforms and instruments for implementing the monetary policy effectively and thus leading the economy to be more vibrant. Transactions through BACPS, BEFTN, RTGS, NPSB, and MFS are growing in tandem with economic expansion. BB is working diligently to incorporate safer and sophisticated technologies to ensure secured execution of transactions through electronic systems, even amid the prolonged global pandemic, COVID-19. Way forward, BB has been gradually developing the payments infrastructure to create enabling environment for e-commerce and working to develop a less-cash society. In the realm of cross-border networking and regional cooperation, BB is deeply monitoring and working with the latest developments in international payment systems, including central bank digital currency and digital lending methods of various kinds. In this course, converging efforts from different departments of BB as well as different Government agencies are vital to adopt the

developments with a view to disseminating the result of the development throughout the nation equitably.