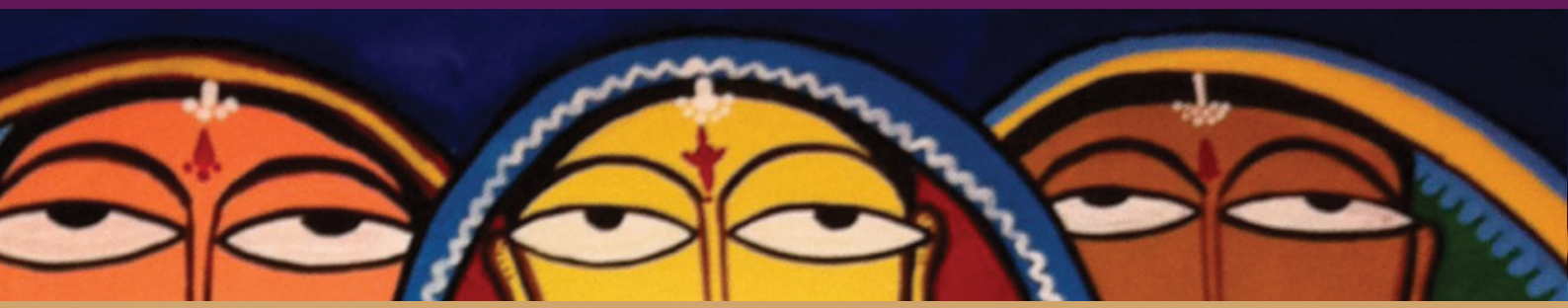
cyril amarchand mangaldas
ahead of the curve

PAYMENTS BOOK

A Cyril Amarchand Mangaldas Thought Leadership Publication



PAYMENTS BOOK

A Cyril Amarchand Mangaldas Thought Leadership Publication

Payments Book

FOREWORD

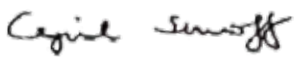
Payments are the foundation of any economy. The remarkable surge in financial transactions has required some drastic alterations to the payment systems across the globe. Many nations have seen substantial advancements in their payment systems because of access to the internet and advancement in electronics and telecommunications. What was considered futuristic a few decades ago is now a commonplace. Therefore, an essential part of a nation's financial infrastructure is a clearly defined payment system. India has had a very positive progression in its payment systems with the Reserve Bank of India, actively promulgating and keeping up with the pace of regulatory changes relating to payment, acting as a catalyst, using a measured strategy that led to this outcome.

Currently, payment systems in India are not only similar to those in other parts of the world, but they are also models for other growing and certain developed economies to follow. We have examined the last year and identified the most important lessons for the sector, as well as the advancements made by the Indian payments ecosystem in recent years, significant growth drivers, and new trends. We have taken into account the shift in consumer behavior, where customers now favor digital transactions because of their usability, robust infrastructure for accepting digital payments, and safe transaction flows. The most recent advancements in the payments industry are covered, including the regularization of the payment aggregator market through the issuance of licenses to businesses, the introduction of the launch of Central Bank Digital Currency (**CBDC**), product innovations by payment system operators (**PSOs**) and payment service providers (**PSPs**) which has expanded the use cases of transacting through digital payments has enhanced the growth prospects of this industry in India. National Payments Corporation of India (**NPCI**) is at the forefront of payment systems and its proximate objective is to provide convenient anytime-anywhere payment services that are secure and easy-to-use. This book attempts to summarize critical legal and regulatory frameworks governing payments in India for an easy reference.

India is already leaps and bounds ahead of many economies when it comes to digital payments innovations across the globe and with the efforts and initiatives of key stakeholders, such as regulators, banks, payment/

FinTech companies, card networks and service providers, we are confident that the industry is going to see tremendous growth in the coming years which will require regulatory oversight to prevent and deter miscreants to misuse the ease of payments.

We hope you will find this book to be an informative and descriptive document on the subject.



Cyril S. Shroff
Managing Partner
cyril.shroff@cyrilshroff.com
January 31, 2024

CONTENTS

A

INDIA A LEADER IN **DIGITAL PAYMENTS** – OPPORTUNITIES AND **WAY AHEAD**

LILY VADERA,
Senior Advisor
(Former Executive Director,
Reserve Bank of India)

India has emerged as a global leader in the adoption of digital payments. Over the last few years, the promotion of digital payments has been given highest priority by the Government of India and the Reserve Bank of India to bring every citizen of the country under the formal fold of digital payment services. The vision is to provide the facility of seamless digital payment in a convenient, easy, affordable, fast and secure manner. In a span of just six years, India, primarily a cash-based economy, now leads the world in real-time digital payments, accounting for almost 40 per cent of all such transactions. Widespread use of mobile phones, coupled with availability of internet services, UPI-led migration to digital, shift in customer preferences and disruptive innovations by fintech companies have provided a thrust to digital payments. This has led to "anytime anywhere" banking. About 1,050 crore retail digital payment transactions worth INR 51 lakh crore processed in January 2023 stand as testimony to the size and efficiency of India's digital payments.

The Reserve Bank of India (**RBI**) has been publishing a composite Reserve Bank of India – Digital Payments Index (**RBI-DPI**) since January 1, 2021 with March 2018 as base to capture the extent of digitisation of payments across the country. The index for March 2023 stands at 395.57 as against 377.46 for September 2022, which was announced on January 31, 2023.

When one thinks of digital payments, UPI - India's payment gateway - instantly comes to mind. The Unified Payments Interface (**UPI**) has been the flag-bearer of India's fintech revolution - launched in 2016 by the National Payments Corporation of India (**NPCI**). The UPI is an instant real-time payments system that enables inter-bank peer-to-peer and person-to-merchant transactions through mobile devices instantly. The success of UPI, has led to its acceptance in other countries for instance, on February 21, 2023, India and Singapore launched cross-border connectivity between UPI and its equivalent in Singapore called PayNow, enabling low-cost and faster cross-border transactions.

Digital payments have brought enormous benefits to the Indian economy. Apart from making payment transactions more secure, fast and convenient, one of the greatest advantage of promoting digital payment is that it has enhanced financial inclusion. Digital payments are one of the most crucial cornerstones of a financially inclusive country, as they assist to bring individuals together under an organised financial system. To begin with the JAM trinity, which stands for Jan Dhan, Aadhaar, and Mobile, had enabled opening of Jan Dhan bank accounts for persons hitherto not having one. It has also served as the cornerstone for the relentless growth in digital payments. People can now conveniently access the bank account digitally and get the benefits of being part of the formal banking system and becoming financially engaged. UPI 123PAY, which was just released, allows feature phone users to perform digital transactions over UPI in assisted voice mode, facilitating digital transactions and financial inclusion in rural areas. In addition, banks and other lending institutions can use digital transaction histories to make cashflow-based lending choices for both retail lending and lending to businesses, especially small enterprises that may struggle to secure credit in the absence of verifiable cashflows.

Going forward

India's digital payments industry is at an all-time high and is predicted to more than triple to USD 10 trillion by 2026. The next wave of growth is most likely to come from Tier 3-6 cities, as indicated by the fact that Tier 3-6 cities have generated about 60-70% of new mobile payment clients over the last two years.

RBI has proposed several initiatives in its Payment Vision 2025 document which is expected to bring a more than 3x increase in number of digital payment transactions; UPI to register average annualised growth of 50% and IMPS / NEFT at 20%; Increase of payment transaction turnover *vis-à-vis* GDP to 8; increase in PPI transactions by 150%; Card acceptance infrastructure to increase to 250 lakh etc.

As the digital payments increase, the safety and security and integrity of the payment systems would be of critical importance. Customer's trust in the system has to be sustained. The RBI's Payment Vision 2025 documents lays out the focus on 'strengthening the e-payments ecosystem' in India. This is most critical as we go more and more digital. While the Reserve Bank has taken several measures for the safety and security of digital payment transactions, further measure to strengthen the safety and security of the payment systems will have to continue to evolve and strengthen. The Central Payment Fraud Information Registry (**CPFIR**) was set up by the RBI in 2020 to analyse trends, release periodic reports and ensure robust measures against fraud. Going forward, they plan to move towards real and near real-time reporting of payment frauds and put in place an integrated platform for all stakeholders (payment system operators and participants – banks and non-banks, law enforcement agencies, etc.) to share information and initiate necessary corrective action to prevent frauds. This would be an important initiative.

With increasing use of mobile and many first-time users entering the e-payment space, more awareness of the risks of increasing cases of phishing and social engineering cyber-attacks, would be needed on a continuous basis both by the central bank and the regulated entities to their customers. RBI had recently held the digital awareness week campaign. The message of the campaign was "Digital Payment Apnao, Auron ko bhi Sikhao" – "Adopt digital payments and Also teach others" – under the mission 'Har Payment Digital' – is very relevant and expected to create greater awareness and usage among the people.

The RBI Vision documents also mentions that they would undertake a study on the feasibility of creation of a Digital Payments Protection Fund with an aim to provide a security cover to defrauded customers / issuers of payment instruments. This would be an useful study to look out for as in spite of the efforts of stakeholders, recovery rate of defrauded amounts is not very encouraging.

From the perspective of financial inclusion, charges for payments facilities will need to be reasonable. There is no doubt that providing digital payment services entails costs, which are borne by one or more of the payment system participants (switching fees, interchange fees) or are passed on to the merchant (merchant discount rate) or the customer (customer charges). These charges will have to be reviewed by the service providers on an ongoing basis to keep them affordable given the volumes becoming larger and larger. Also, an effective and efficient grievance redressal mechanism is of prime importance for timely resolution of customer complaints/ grievances.

Now BigTech and FinTech companies are actively expanding their scope of business from initial onboarding of customers for facilitating payment transactions to becoming participants of payment systems and thereafter providing a host of financial services. Going forward, given their increasingly dominant role in payments ecosystem, a discussion paper on the need for proportionate regulation by the Reserve Bank encompassing domestic incorporation, reporting, data use, etc., is proposed to be published by RBI. This would be an interesting document to watch out for.

Last but not the least, the CBDC has been gaining much traction with 86% of the central banks globally reviewing its feasibility for cross-border transactions as well as for internal benefits (2021 BIS Survey). CBDC is also an area of interest for G20 under its priority initiative to enhance cross-border payments. Reserve Bank is working towards introduction of CBDC in India. It has been launched in pilot phases of wholesale and retail CBDC in October and November 2022, respectively. It is hoped that the Central Bank Digital Currency (**CBDC**), can play an important role in cross-border payments. Various use cases would be studied and explored by RBI to bring in further efficiencies in domestic and cross-border Payment processing and settlement using CBDCs.

Conclusion

The Government of India and the RBI are committed to expanding digital transactions in the Indian economy, thereby improving the quality and strength of the financial sector and the ease of living for citizens. In digital payments, India has been and will continue to witness new milestones, in both value and volume terms, which indicate the robustness of India's payment ecosystem and acceptance.

B

SECURITY, **FRAUD** AND **RISK MANAGEMENT** IN **PAYMENTS ECOSYSTEM**

B. SRIRAM,
Senior Advisor
(Former Managing Director, State Bank of India (SBI) and MD/ CEO IDBI Bank)

Payments are a mechanism for settling and exchanging value between parties involved in a transaction. The term payment refers to the process of transferring value, often in the form of money, from one party (payer) to another (payee) in exchange for goods, services or towards the fulfilment of a financial obligation.

In the era of digital advancements, online payment systems and its widespread integration with electronic transactions have had a profound impact on financial transactions, including ensuring efficiency and convenience for individuals and businesses to conduct business. As of 2023, digital payments in India crossed 160 billion and is likely to reach over 275 billion by 2027. Around 650 million users contribute to 47% internet penetration rate in India. Also, remarkably 45% of internet connections extend to rural areas. The average monthly data usage stands at an impressive 18GB, surpassing the global average of 11GB. While these are significant business adoption volumes, the risks involved should not be underestimated. Accordingly, it is imperative that mitigants keep pace, if not be ahead.

In the present landscape, many payment modes are available and the factors for adoption of these modes vary with the evolving technology stack in the payment ecosystem. Fundamentally, there are three parties involved in the entire chain – the payer, payee and the intermediary. In the current day modern payment ecosystem, digital wallets, online banking and various other electronic payment platforms have become integral components of any economic transaction.

Payment Forms

Traditional forms of payments involve cash, cheques, credit or debit cards, and electronic funds transfers; while the modern forms are unified payment interface, payment basis QR code, etc. These modern forms enable quicker and secure transactions, across channels. The choice of payment method depends on various factors such as convenience, security, and the nature of transaction. As technology develops, new payment methods will continue to emerge.

Payments can be classified into various types, based on the medium or method used for money transfer. These include cash payments; cheque payments made through written order, directing a bank to pay a specific sum of money to the payee; money orders which are prepaid and secure; credit and debit card payments; electronic funds transfer or payment made through online banking platforms that involve electronic transfer of funds between bank accounts, such as IMPS, NEFT, RTGS, or bill payments; wire transfers that involve a method of electronic funds transfer between different financial institutions; mobile payments, via UPI, mobile wallets, QR code, P2P, and person to merchant mobile transfers, which involve the use of mobile devices to initiate and authorise payment; digital wallet payments, which involve storing payment information digitally for quick and secure transactions (for example: Apple Pay, Google Pay, and Samsung Pay) and cryptocurrency payments, which involve using digital or virtual currencies (cryptocurrencies) for transactions (for example: Bitcoin, Ethereum).

Payment Frauds

Payment frauds involve deceptive activities conducted with the intention of gaining unauthorised access to funds in the course of a financial transaction. Such frauds exploit the vulnerabilities in the payment system. Some of the most common forms of payment fraud are card skimming and PIN theft, whereby criminals use devices (skimmers) to steal credit card information and obtain PINs using hidden cameras or shoulder surfing. Another form is Account Takeover, through which criminals gain access to a person's account, often by stealing login credentials and making unauthorised transactions. Phishing, a deceitful practice, involves use of fake emails, websites or messages by criminals, to trick individuals into revealing sensitive credentials. The different forms of phishing are vishing (i.e., by use of phone) and smishing (i.e., by use of SMS that has embedded malicious link or phone number). Business Email Compromise (**BEC**) is a type of payment fraud, which involves use of business email accounts to request fraudulent wire transfers within an organisation. Mobile payment fraud often involves SIM swap, whereby criminals gain control of a victim's phone number. Furthermore, there are Apps such as screen sharing apps or SMS forward apps, which are designed to steal payment information or conduct unauthorised transactions. Other forms include use of malicious software to capture payment card information, man-in-the-middle attacks, which involve intercepting communication between parties to gain unauthorised access to payment information, and risks that arise from vulnerabilities in the systems like coding errors, network and application vulnerabilities, access compromise, etc.

Risk Mitigation

To mitigate and prevent such payment frauds, it is imperative to implement various measures to ensure protection against unauthorised access, data breaches and fraudulent activities. Many preventive steps can be taken to ensure protection against payment frauds. Continuous customer awareness and education on cybersecurity matters, with regard to adoption of various available products, is the need of the hour to ensure protection against digital fraud. Tokenisation to replace sensitive payment card information with unique tokens and two factor authentication (**2FA**),

providing an extra layer of security (OTP, grid card, token), are also important steps. Adoption of EMV chip technology (i.e., use of EMV chip-enabled cards and terminals) provides enhanced security compared to magnetic stripe cards. Use of end-to-end encryption and secure sockets layer (**SSL**) certificates, along with biometric authentication methods, such as fingerprints or facial recognition, are certain security measures that reduce the risk of digital frauds. Furthermore, Positive Pay Services help users to match cheques against a list of authorised transactions. Conducting regular security audits help in identifying various vulnerabilities in the system, processing such vulnerabilities and addressing them promptly.

With the evolution of technology, advanced fraud detection systems and geolocation and device recognition technologies have also developed to identify fraudulent transactions. Additional practices such as setting up transaction limits, implementing velocity checks, establishing robust customer confirmation processes for high-value or high-risk transactions and educating employees/ customers about the best security practices can help prevent payment frauds. Other methods of prevention involve establishing controls and regular reviews of vulnerability testing, user access control reviews, regular education on cyber security awareness, review of out of support systems, reconciliation mechanisms to identify potential frauds, high priority measures for expeditious and satisfactory resolution of customer grievances and working with law enforcement agencies and cybersecurity organisations to share information and combat fraud effectively.

Future Trends

Future developments pertaining to this area are likely to evolve closely in compliance with the RBI's 'Charter of Customer Rights', which ensures fair treatment to customers, transparency, fair and honest dealings, suitability of product offerings, privacy of data and transactions and an enhanced mechanism for grievance redressal and compensation. Complemented with an increased focus on enhanced financial literacy and education, these fundamental principles will provide the foundation for the development of a robust and adequate risk and security mechanism. While the regulators have prioritised customer education, it is the collective responsibility of all stakeholders to contribute more actively. This becomes crucial in the evolving scenario of increasing digital financial services adoption by senior citizens, women, young and first-time users. With the increasing use of IT and digital payments, the risk landscape will keep changing rapidly. These risks involve user level compromised credentials, channel level risks (points of sale, etc.), operational risks, counterparty risks in dealing with partners and vendors, IT, cyber and information security risks, fraud risks and many more. The need of the hour is continuous monitoring and updating of skills, along with risk mitigation methodologies. These are important practices for ensuring resilience and security of the payment's ecosystem.

C

ENFORCEMENT **TRENDS** IN **PAYMENTS** - **FINTECH SPACE** AND **FUTURE**

MANMOHAN JUNEJA,
Senior Advisor
(Former Director General Corporate Affairs (DGCoA))

The payment ecosystem of India is evolving at an unprecedented pace, raising critical concerns about cyber security risks, payment frauds, systemic risks and consumer protection concerns. The RBI, backed by other law enforcement agencies such as the Enforcement Directorate (**ED**), the Financial Intelligence Unit (**FIU-IND**) and the National Investigation Agency, is tasked with closely monitoring the fronts of digital payments, lending, high-value and suspicious transactions, and the cross-border flow of funds.

Recent trends show that regulators are extending their regulatory reach to protect the digital payment landscape. By issuing show-cause notices to offshore Virtual Digital Asset Service Providers questioning their non-registration with FIU-IND, the finance ministry has plugged a critical gap in regulatory oversight and appears determined to extend the anti-money laundering and reporting framework to all entities serving the Indian users. Meanwhile, the RBI's penalties against payment aggregator, payments bank and banks for compliance failures reinforce the importance of adhering to KYC, cyber security and other regulatory

norms. These actions demonstrate a concerted effort to reinforce regulatory boundaries and ensure accountability across the payment's ecosystem.

Under the cover of convenience provided by the rapidly evolving ecosystem, illegal activities are on the rise and they must be prevented. The ED's unearthing of the GainBitcoin scam, involving more than INR 6000 crore, is a prime example highlighting such risks. The Delhi High Court recently held an online payment gateway to be a "payment system operator" under PMLA. Although the matter is still pending, the ruling can potentially impose significant obligations on all payment gateways operating in India.

The RBI's recently introduced Master Directions on Cyber Security and Cyber Resilience showcases a commitment to building a robust cyber security framework within the digital ecosystem. By aligning with the data privacy, data retention, and data breach norms under the new Digital Personal Data Protection Act, 2023 (**DPDPA**), the RBI is ensuring that consumer protection and responsible data management remain at the forefront of digital innovation. Such measures, further complemented by FIU's increased reporting thresholds and the active role of ED in fighting economic crime, demonstrate a holistic approach to detect and prevent threat.

It is expected that 65% of all payments will be digital by 2026. While recent actions by enforcement authorities reflect an aim to create a safe financial ecosystem, building consumer awareness, deploying robust fraud management solutions, and fostering proactive reporting are crucial in securing India's digital future.


Online Banking
Personal Account
Account Details
Mobile Payment
Personal Loan
Deposites
$ 55,678.99
Current Balance
$ 5,678.99
Current Balance
$ 5,678.99
Current Balance
$ 5,678.99
Current Balance
Bank Visa
12345678
Last Payment 2022-02-20
$ 2,678.99
Log Out

01

INTRODUCTION TO **PAYMENT** AND **PAYMENT SYSTEMS**

OVERVIEW OF PAYMENTS IN INDIA – TRADITIONAL & ELECTRONIC PAYMENT SYSTEMS

The payments industry is a crucial part of the global economy. It enables the exchange of monetary value of goods and services between customers, businesses and financial institutions. The history of payments dates back to the barter system, which has come a long way to the present day, where payments and settlement systems have become a crucial part of the global economy, driving innovation and supporting the development of digital economies.

India has a rich history of payment system that dates back to the 6th Century BC when coins were first introduced in the country. Paper money, on the other hand, was first introduced in India by European traders in the 17th Century. The role of money and paper instruments were formalised and nationalised in India during the British era and printing of currency notes began actively after the enactment of the Paper Currency Act in 1871. The Negotiable Instruments Act of 1881 (**NI Act**) defined the use of promissory notes, bills of exchange and cheques. Post-independence, transactions were mainly in cash and cheques. The advent of the internet in the late 1990s and early 2000s saw payments in the digital realm come into play.[1]

1. PwC, *The Indian payments handbook – 2022–2027*, available at: The Indian Payments Handbook 2020-2025.

The digital payments revolution in India began in 2015-16 when smartphones became ubiquitous in the country with COVID-19 acting as a catalyst. The rise of smartphones and 4G internet networks led to the emergence of mobile/ digital first businesses, which necessitated the creation of a robust online payments ecosystems that could facilitate the exchange of monetary value for trade and commerce in the digital era.

IMPORTANCE OF PAYMENT SYSTEMS:

Despite the move towards a cashless society, paper-based payments such as cheques and cash still play an important role on account of its convenience, familiarity, ease and being more widely accepted.

Electronic payment systems, while still being an emerging technology when compared to traditional methods, are an essential part of the economy as they provide the means to transfer money from one party to another, without the need to exchange physical currency. A robust payment system is necessary for the functioning of interbank and capital market transactions as it can substantially reduce the cost and friction involved in exchanging goods, services and assets. Digital payment systems have the benefit of convenience, portability, safety, security and also help to reduce the amount of cash in circulation, thereby combating corruption and tax evasion.

In recent years, India has been at the forefront of digital payments innovation and adoption. The country has built an ecosystem that enables individuals as well as businesses to use credit and debit cards, Unified Payments Interface UPI and other modes of digital payments with ease, thereby facilitating the adoption and use of digital payments. This has led to many countries seeking to follow on India's footsteps to replicate such a digital payments ecosystem.

At the same time, growth in offline payment system infrastructure has slowed. High maintenance cost in comparison to the revenue generated by Automated Teller Machines (**ATMs**) has been a major challenge. Additionally, new developments in the form of digital rupee and 5G has caught the attention of the government in recent times, which is likely to give a further boost to the digital payments infrastructure, while creating more opportunities for new players to launch innovative products.[2]

Electronic payment systems provide a host of new benefits and advantages for businesses such as reduced speed, transaction costs, security and transparency, which give them a competitive advantage.

EVOLUTION OF PAYMENT SYSTEMS IN INDIA:

Payment instruments and mechanisms have a very long history in India. The earliest coins were either punch marked or cast in silver and copper. While coins represented a physical equivalent, credit systems involving bills of exchange facilitated inter-spatial transfers. Paper money, in the modern sense has its origin in the late 18th Century, with note issues of private banks as well as semi-government banks.

India has made significant advancements in its payment's infrastructure in the last few years, from credit cards to one-click payments. In the pre-internet era, electronic payments, especially credit and debit cards, were one of the most dominant forms of non-cash payment mechanisms. Credit cards were first introduced in India by the RBI in 1980 in association with Visa and MasterCard. Businesses and consumers quickly adopted these cards for convenience. With the arrival of publicly-available internet service in the mid-90s, businesses began selling their products and services online, known as 'E-commerce', which led to a new kind of boom.[3]

India's first-ever payment aggregator 'BILLDESK' launched its operations in India in 2000. The turning point came in 2016, with the launch of UPI by the Government of India and National Payments Corporation of India (**NPCI**) which has gained immense popularity and has seen an exponential increase in its usage and adoption. Seeing its utility and ease during transactions, payment gateways soon integrated UPI into their systems as an additional payment option to be offered to customers. This resulted in evolution of the Fintech sector at an unthinkable pace, with the number of digital transactions constantly rising, and merchants and consumers finding it easier to make digital payments.[4]

With personalisation, customer convenience and security have become the prime drivers of success in the digital era. Hence, both banks and non-banking financial services institutions are rapidly adopting fintech offerings. There is also a new range of services

2. RBI, *Overview of Payment Systems in India*, available at: Reserve Bank of India - Payment and Settlement Systems (rbi.org.in).
3. RBI, *Evolution of Payment Systems in India*, available at: CHAP2.PDF (rbi.org.in).
4. Cornell - SC Johnson College of Business: *Unified Payments Interface: India's Digital Highway to Speedy Financial Inclusion*, available here.

such as 'Request to Pay' and 'Buy-Now Pay-Later', which offer ease, control and flexibility in making purchases or paying bills. With both the common public and businesses adopting digital payments at a rapid pace, the future appears to be a digital one, with payment solutions becoming faster, smoother and more secure.

REGULATORY FRAMEWORK OF PAYMENT SYSTEMS IN INDIA:

The payment ecosystem has undergone several changes over the past decade. Central banks worldwide have been designing policies to build cashless economies, while ensuring safe, secure and robust payments systems and in India, RBI has been instrumental in developing the payments ecosystem.

The RBI undertook various initiatives in the mid-80s and early-90s, which focused on technology-based solutions to improve the payment and settlement system infrastructure which include:[5]

a. **Electronic Clearing Service Debit (ECS Debit)**: ECS Debit was introduced by the RBI under the ECS (Debit) Scheme to provide a faster method of effecting periodic and repetitive collections of utility companies by mandating bank branches to debit their accounts and pass on the money to the companies.

b. **National Electronic Funds Transfer (NEFT) System**: NEFT was introduced in 2005 for facilitating one-to-one funds transfer requirements of individuals/ corporates. Available across a longer time window, the NEFT system provides for batch settlements at hourly intervals, thus enabling near real-time transfer of funds.

c. **Real Time Gross Settlement (RTGS) System**: RTGS is a funds transfer system where transfer of money takes place from one bank to another on a 'real time' and are settled on 'gross' basis i.e. one-to-one basis without bunching or netting with any other transaction. Once processed, payments are final and irrevocable.

d. **Clearing Corporation of India Limited (CCIL)**: CCIL was set up in April 2001 by banks, financial institutions and primary dealers to function as an industry service organisation for clearing and settling trades in money market, government securities and foreign exchange markets. CCIL plays the role of a central counterparty, whereby the contract between a buyer and a seller gets replaced by two new contracts between the CCIL and each of the two parties.

e. **National Payments Corporation of India**: The NPCI acts as an umbrella organisation to operate various Retail Payment Systems in the country and is expected to improve efficiencies by way of uniformity and standardisation in retail payments and expanding and extending the reach of both existing and innovative payment products for greater customer convenience.

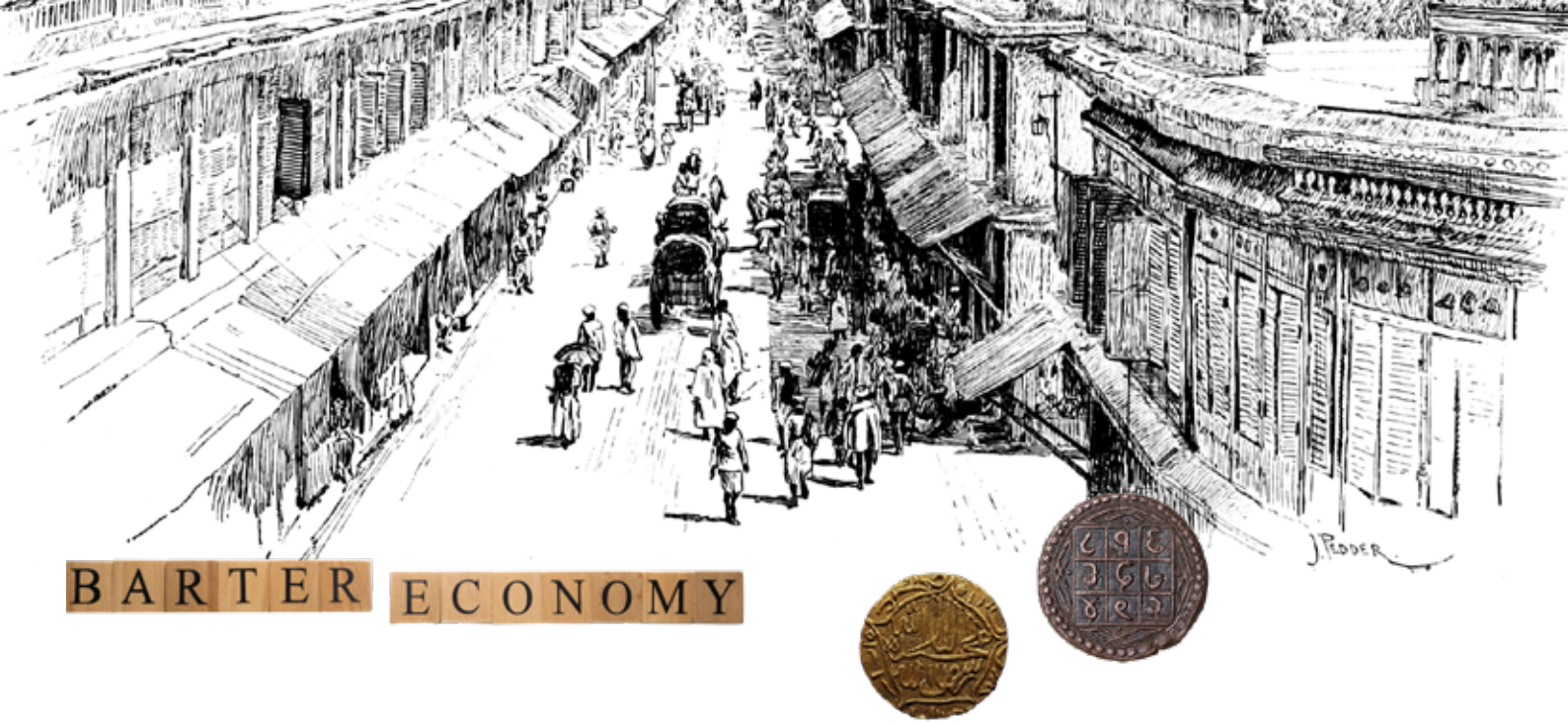
The Board for Regulation and Supervision of Payment and Settlement Systems (**BPSS**), a sub-committee of the Central Board of the RBI, is the highest policy making body on payment systems in the country. The BPSS is empowered to authorise, prescribe policies and set standards to regulate and supervise all payment and settlement systems in the country. The RBI's Department of Payment and Settlement Systems serves as the Secretariat to the Board and executes its directions. In India, payment and settlement systems are regulated by the Payment and Settlement Systems Act, 2007 (**PSS Act**), which was legislated in December 2007 to regulate and supervise all payment methods in India.

5. RBI, *Overview of Payment Systems in India*, available at: Reserve Bank of India - Payment and Settlement Systems (rbi.org.in).

02

ĒVOLUTION OF **PAYMENTS IN INDIA**

FROM KINGDOMS TO THE MODERN NATION-STATE



Introduction

The history of payments in India reflects the evolution of the country's society, economy, and governance. From the ancient barter system to the complex digital transactions taking place today, India's payment mechanisms have traversed a remarkable path. This chapter delves into the captivating history of payments in India, emphasizing the shift from traditional kingdom-based systems to the contemporary methods that underpin India's present economic landscape.

The Barter System and Early Forms of Payment

In the earliest stages of human civilization, the barter system was the primary method of exchange, where goods and services were traded with each other directly without the need for a standardized medium of exchange. Communities in ancient India engaged in direct swaps of good and services to satisfy their needs. However, as societies grew more complex, the limitations of the barter system became apparent—as the barter system relied largely on the requirement for a "double coincidence of wants". This inherent need for mutual agreement often led to difficulties in finding suitable trading partners. In addition, the indivisibility of certain goods posed a considerable challenge within the barter system.

As society progressed, cowrie shells started gaining prominence as a mode of payment in ancient India. These developments laid the foundation for more advanced economic systems to come.

Kingdom-Based Monetary Systems

With the rise of kingdoms and empires, India witnessed the establishment of a much more organized monetary systems using coins. These coins bore symbols that represented the issuing authority and became widely accepted across different territories, streamlining trade and payment.

a. **The Mauryan Empire (322–185 BCE):**

The Mauryan Empire enhanced the payment infrastructure by introducing standardized metal coins with inscriptions, reflecting the authority of the state. At the heart of the Mauryan payment system was the use of punch-marked coins, a significant departure from the earlier barter system. These coins bore symbols representing their weight and metallic content, thus providing a standardized measure of value.

The use of standardized punch-marked coins across various regions helped overcome the challenges of diverse local economies and languages. This promoted smoother trade and interactions between different regions.

b. **The Gupta Empire (4th - 6th Century CE)**

The Gupta Empire minted gold coins featuring intricate designs and inscriptions. This era was marked by the issuance of gold coins, referred to as "dinars."

The issuance of standardized coins made trade more efficient and convenient, as merchants and traders across the empire could rely on a uniform medium of exchange. This standardized currency also aided in the collection of taxes and revenue, as the state could easily assess and manage its financial resources.

c. **The Medieval Period and Islamic Influences**

The medieval period in India saw the influence of various Islamic dynasties, which introduced new forms of currency and payment systems. The Delhi Sultanate issued silver coins and copper tankas, bearing inscriptions in Arabic script. The use of Arabic script facilitated transactions across different regions, given the widespread familiarity with Arabic due to religious and trade connections.

Another significant development during the Islamic rule was the introduction of fiduciary currency. Fiduciary currency refers to a form of money that derives its value from the trust and confidence of the people, rather than its intrinsic value. The rulers of the medieval period began issuing coins with higher face values than their actual metallic content. These coins were accepted by the people due to their trust in the issuing authority.

The use of bullion transactions also gained prominence during this period. Bullion transactions involved the exchange of precious metals, based on their weight and purity when official currency was not readily available or trusted. Bullion transactions played a role in cross-border trade and commerce, contributing to economic interconnectedness.

Under the Hundi system, a sophisticated method of remittance and payment emerged. Merchants and traders used the Hundi, a type of bill of exchange, to transfer funds across different regions. This system enabled transactions without the need for physical transportation of currency and fostered economic interactions between distant areas.

The medieval payment system under Islamic rule also witnessed the continuation of the use of coin weights and measuring instruments. These tools ensured the accuracy and integrity of transactions, assuring merchants and traders that they were receiving the correct amount of currency or commodities.

Colonial Rule and the Introduction of Paper Currency

The colonial rule in India marked a significant turning point in the history of payment systems. The British East India Company sought to streamline the complex payment systems that existed in different regions of India. In 1861, the Paper Currency Act was enacted, unifying the diverse coinages prevalent across the subcontinent. Through this act, the Indian rupee as the official currency of India was established, signaling the beginning of a standardized payment system under colonial rule. The Government of India issued

the first series of paper currency notes, often referred to as "currency tickets." These notes were initially introduced in denominations of INR 10, INR 20, INR 50, INR 100, and INR 1000.

The adoption of paper currency simplified transactions as individuals and businesses no longer required to carry heavy metal coins for commerce. It facilitated the movement of funds over longer distances, which was especially significant in a vast country like India. The centralized issuance and regulation of paper currency enabled greater control over money supply and allowed for more effective monetary policies.

The introduction of paper currency also led to the establishment of RBI in 1935, marking a pivotal shift towards a more organized and centralized approach to the payment system. The RBI was responsible for overseeing the issuance of currency notes and maintaining the stability of the financial system.

British India adopted the Gold Standard during the late 19th century, pegging the Indian rupee to the British pound at a fixed exchange rate. This linkage facilitated international trade and provided stability to the currency.

The Birth of Modern Payments

Following India's independence in 1947, the country embarked on a journey to establish its own economic identity. One of the earliest steps was the introduction of new coinage and currency notes that bore designs reflecting India's cultural heritage and values.

One of the foundational developments during this period was the autonomy granted to the RBI. The RBI's role was expanded post-independence to formulate monetary policies, regulate financial institutions, and oversee payment and settlement systems in the country. This autonomy enabled the RBI to effectively manage the nation's payment infrastructure and contribute to its stability.

A significant aspect of the payment system's evolution in India has been the modernization of the country's payment infrastructure. The establishment and expansion of banking networks across the country, coupled with the introduction of efficient check clearing systems, expedited transactions and enhanced financial accessibility. The introduction of ATMs revolutionized the way people accessed funds. ATMs enabled individuals to withdraw cash at their convenience, beyond traditional banking hours. Simultaneously, the adoption of credit and debit cards introduced secure and convenient payment options, reducing the reliance on physical currency.

The 21st century ushered in a digital payments revolution that reshaped India's payment ecosystem. The proliferation of smartphones and the internet paved the way for online banking, mobile wallets, and digital payment platforms. The UPI emerged as a game-changer, allowing seamless and instant peer-to-peer transactions. The RBI has also introduced digital rupees in India, while developments with respect to payments made through cryptocurrencies are still being contemplated and developed.

Conclusion

The evolution of the payment system in post-independent India has been guided by the establishment of regulatory frameworks to ensure security and consumer protection. Measures have been implemented to safeguard transactions, prevent fraud, and provide a secure environment for financial activities. As India's economy integrates further into the global landscape, the payment system has adapted to accommodate international transactions and cross-border payments. Foreign exchange mechanisms have been streamlined, and international remittances have been made more accessible, supporting the country's international trade and financial interactions.

03

PAYMENT **INSTRUMENTS** IN **INDIA**

Introduction

Payment instruments play a pivotal role in weaving together the complex web of economic transactions. Commonly, a 'Payment System' means *"A set of instruments, procedures and rules for the transfer of funds between or among participants. The system encompasses both the participants and the entity operating the arrangement. Payment systems come in many shapes and sizes, and new designs continue to emerge"*[6].This chapter embarks on a journey through the world of payment instruments, specifically in India, to understand their features, meaning and legal regime around it.

Evolution of Payment Systems in India: A Historical timeline

In India, there is a very long history of payment instruments and mechanisms. Coins, either punched mark or cast in silver or copper are considered to be the earliest payment instrument in India.

6. Morten Bech and Jenny Hancock, *Innovations in Payments*, BIS Quarterly Review, available at bis.org/publ/qtrpdf/r_qt2003f.pdf.

Rnapatra or Rnalekhya are the loan deed forms that were used in ancient India. Various details were provided in these deeds that had to be witnessed by persons of respectable means. Even during the Buddhist period, execution of loan deeds continued. In Buddhist period loan deeds were called *inapanna*. *Adesha*, an order to the banker to provide the money a third person, was used in the Mauryan period. This instrument was very similar to the modern-day bill of exchange. During the Mughal period, these loan deeds were continued, however, they were called: *dastawez-e-indultalab* (payable on demand) and *dastawz-e-miadi* (payable after a stipulated time).

Hundis were very popular in the 12th century as a credit instrument. They were used as remittance as well as credit instruments.

In the late 18th century, paper money was introduced in India. Private Banks and Presidency Banks introduced various other payment instruments. Bank of Hindoostan, which was established in 1770, introduced cheques in India. Cash credit accounts were introduced by Bank of Bengal in 1833, loans were granted by the bank against bullion.

Subsequently, under the Paper Currency Act, 1861 the Government of India was granted monopoly to issue notes. Usage of cheques, bill of exchange and promissory note became formal and regulated after the passing of NI Act.

With the growth in trade and commerce, organised cheque clearing process came into picture leading to the formation of clearing corporation in presidency towns. When the RBI was established under the Reserve Bank of India Act, 1935, it took over the clearing houses in the Presidency Towns.

CASH BASED PAYMENTS

Monetary transactions have constituted an integral facet of human history for a span of no less than five millennia. Prior to this, it is widely concurred among historians that a system of reciprocal exchange commonly known as barter, was the prevailing mode of transactional engagement, characterised by the direct interchange of goods and services[7]. In August 2021, archaeologists affiliated with the State University of Zhengzhou in China publicly disclosed the unearthing of the planet's most ancient, reliably dated coin minting establishment (a mint is an establishment designated of the production of currency) located in Guanzhuang, China. Around the approximate year of 640 BC, this facility commenced the fabrication of spade coins, representing one of the initial instances of standardised metal coinage.

Numerous initiatives have been taken by the Government of India to make the country a "cashless economy". However, it cannot be said that digital transactions in India have completely replaced cash-based transactions. In the month of March 2022, a news report quoting RBI data highlighted that the Cash in Circulation was up 9.2 % to hit an all-time high of INR 31 lakh crore[8]. Another report, titled 'CMS India Cash Vibrancy Report 2023' by CMS Info Systems, concluded that there was 235% increase in ATM cash withdrawals after demonetisation[9].

In addition, formal banking services are still not accessible to a major portion of the population in India[10], leaving them to rely largely on cash for their day-to-day transactions. A push in the financial and technological literacy rates and access to digital financial services can only help this population adopt digital mode of transaction and make the country a 'cashless economy'.

CHEQUES AND NEGOTIABLE INSTRUMENTS:

In the 1st century AD, banks in Persia and contiguous areas promulgated instruments of credit denominated as '*Sakks*', purportedly serving as antecedents to the contemporary cheque. In compliance with their customers, financiers would disseminate directives denominated as 'Bills of Exchange' to effectuate payments to specifically designated beneficiaries, thereby obviating the necessity for erstwhile merchants to transport substantial quantities of currency or precious metals[11].

Printed cheques made their debut in the early 1700s, followed by the introduction of personalised cheques in 1810 within England. The commencement of day

7. Andrew Beattie, *The History of Money*, Investopedia, available at: The History of Money: Bartering to Banknotes to Bitcoin (investopedia.com).
8. Sunainaa Chadha, *Why cash circulation in economy hit all-time high in March 2022 despite surge in digital payments*, Times of India, available at: Why cash circulation in economy hit all-time high in March 2022 despite surge in digital payments - Times of India (indiatimes.com).
9. CMS Connecting Commerce, *India Cash Vibrancy Report 2023*, available at CMS India Cash Vibrancy Report 2023.pdf.
10. Madhumita Paul, I*ndia still among countries with poor access to banking: Report*, Down to Earth, available at India still among countries with poor access to banking: Report (downtoearth.org.in).
11. Infosys Finacle, *Evolution of cheques and paper-based clearing in India*, available at Evolution of cheques and paper-based clearing in India (edgeverve.com).

cheque clearing transpired in 1770s, entailing bank clerks convening to exchange cheques and reconcile their financial liabilities in currency[12].

A cheque is a negotiable instrument you can issue to your bank, directing it to pay the specified sum mentioned in digits as well as words to the person whose name is borne on the cheque. Section 6 of the NI Act defines a 'cheque' as:

"A cheque is a bill of exchange drawn on a specified banker and not expressed to be payable otherwise than on demand and it includes the electronic image of a truncated cheque and a cheque in the electronic form."[13]

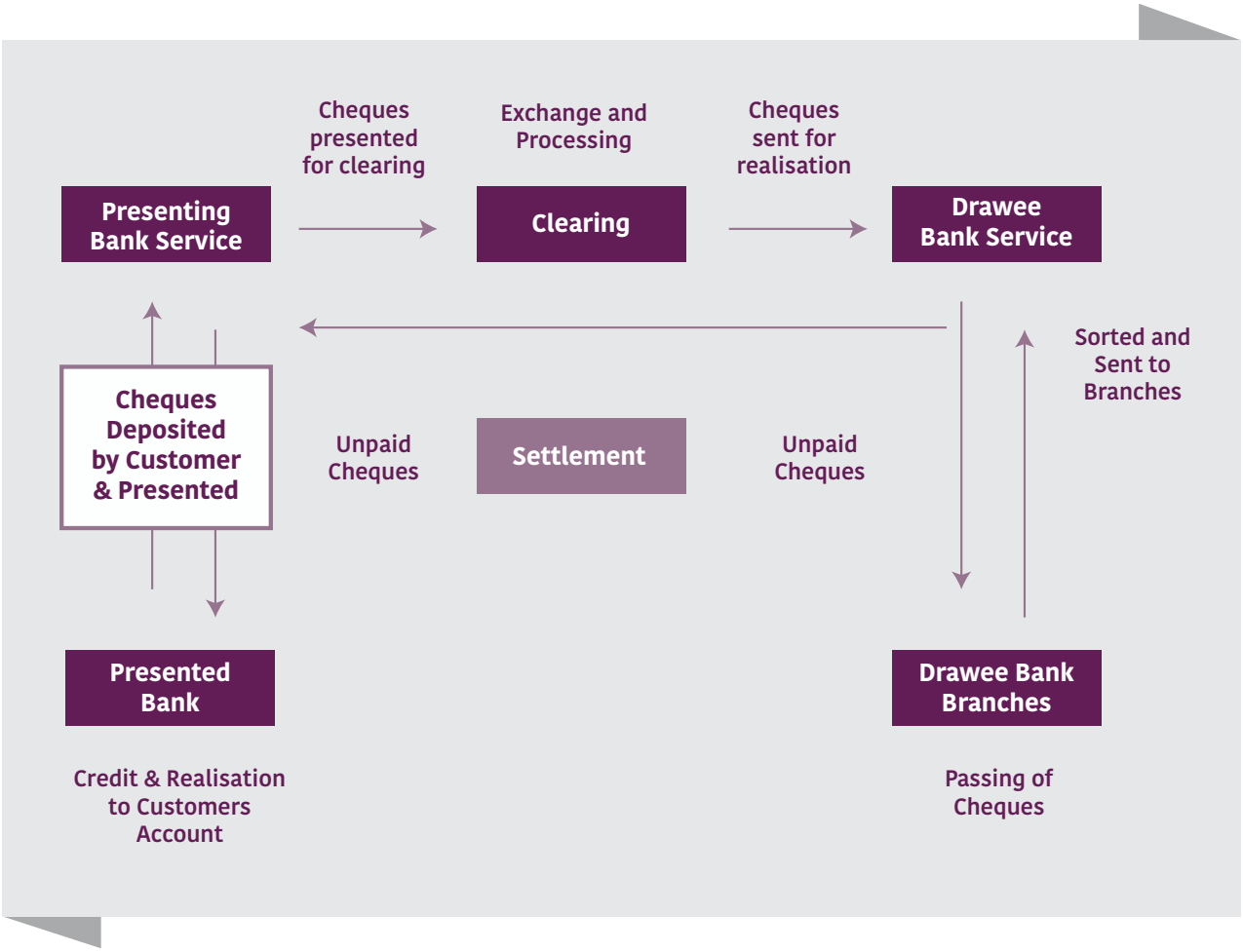
It should be noted that all cheques are bill of exchanges, however, not all bill of exchanges are cheques. Two important characters of a bill to qualify as a cheque are:

1. A cheque is always drawn on a specified banker, and
2. A cheque is always payable at demand

An interesting point which should be noted is that a cheque doesn't require to be accepted, whereas a bill of exchanges has to be accepted before its payment is claimed.

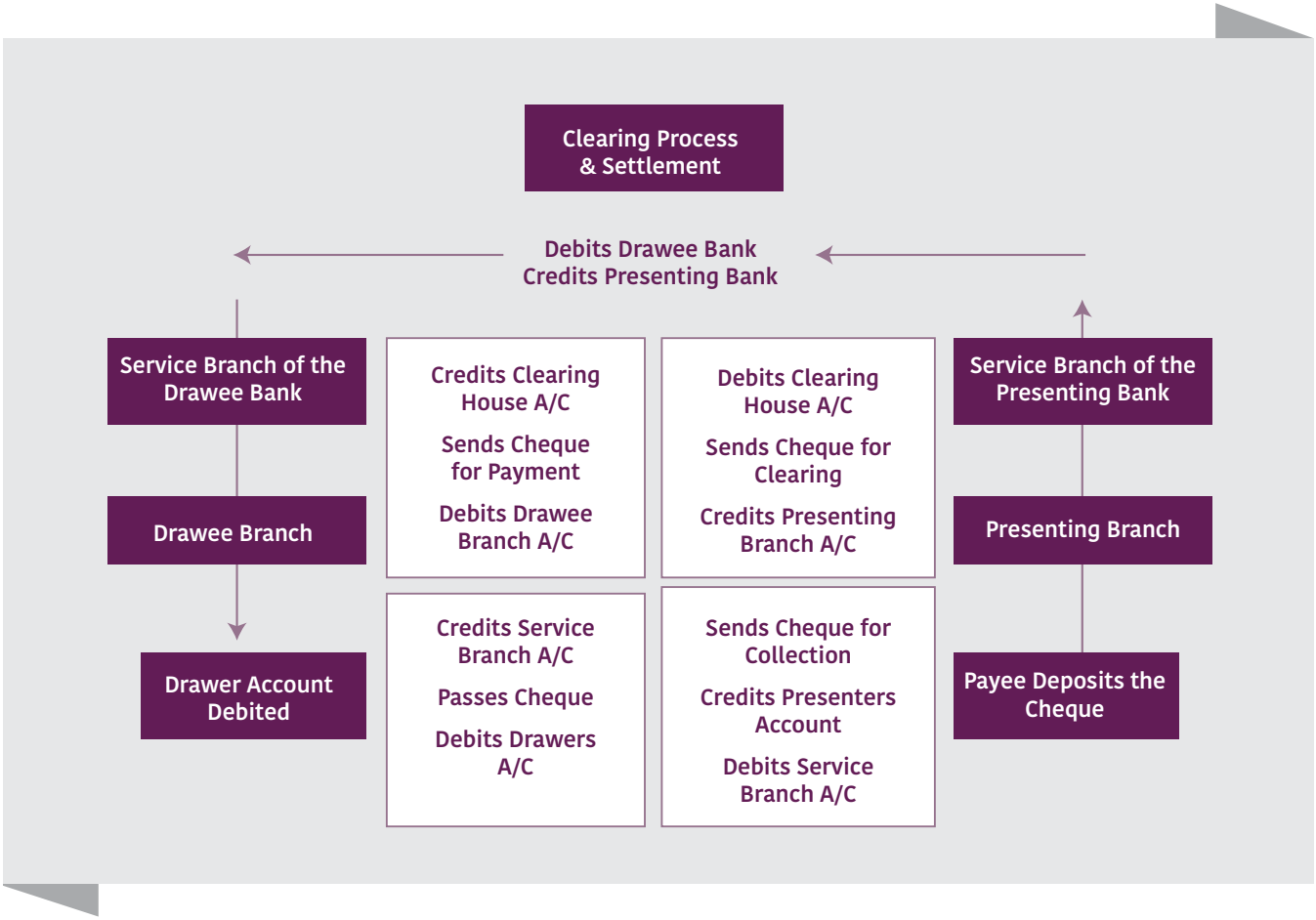
Cheques and negotiable instruments play a pivotal role in modern commerce and financial transactions. They serve as tangible expressions of contractual agreements, facilitating secure and convenient exchanges of value between parties. These

The movement of cheques in local clearing



12. *Ibid.*
13. Section 6, The Negotiable Instruments Act, 1881.

Settlement Process in Clearing



instruments provide a level of trust and assurance, allowing individuals and businesses to conduct transactions with confidence, even in situations where immediate cash or electronic transfers may not be feasible or practical. Moreover, they serve as essential documentation for record-keeping and audit trials, contributing to transparency and accountability in financial dealings.

Sections 138 to 142 were added to the NI Act to provide credibility to the negotiable instruments used in day-to-day business transactions. The provisions delineated within Sections 138 to 142 of NI Act have been promulgated with the primary intent of ensuring the fidelity and enforcement of commitments stemming from the issuance of cheques as a means of deferred payments.

Courts in India, through its judgments and orders, have developed a lot of jurisprudence related to these provisions dealing with cases of cheque bounce. In the case of ***N. Parameswaran Unni v. G. Kannan***[14] , the court was of the view that under Section 118 and 139 of the NI Act, there exist presumptions in favor of the holder of the cheque, indicating it was drawn to settle a debt or liability. However, an accused can, without testifying, through cross-examination, rebut this presumption. The complainant remains obligated to demonstrate that the cheque was issued for a legally enforceable debt or liability. In such instance, the burden on the accused is not as lenient as under section 114 of the Evidence Act, 1872.

In the case of ***Basalingappa v. Mudibassapa***[15], it was held that section 139 of the NI Act, when the execution of cheque is admitted, establishes a presumption that

14. N. Parameswaran Unni v. G. Kannan, (2017) 5 SCC 737.
15. Basalingappa v. Mudibassapa, 2019 SCC OnLine SC 491.

the holder of the cheque has received it as a discharge, either in entirety or in part, of any debt or other liability.

In the case of ***Sunil Todi v. State of Gujarat***[16], central question before the Supreme Court was to ascertain whether the dishonor of cheque that is provided as 'security', could be considered a legally enforceable debt under Section 138 of NI Act. The court was of the opinion that under Section 138, a cheque is drawn by a person for the discharge of any debt or other liability. In a case where a party has provided cheque as security to discharge the obligations set out in agreement, the presentation of such cheque in case of default can be easily contemplated by the issuer. Therefore, the court opined that the intrinsic character of cheque as an instrument designed to meet a legally enforceable debt cannot be taken away just by labelling it as 'security'.

Other negotiable instruments which are discussed under the NI Act:

1. **Promissory Note**: Section 4 of the NI Act defines promissory note as *"an instrument in writing (not being a bank-note or a currency-note) containing an unconditional undertaking, signed by the maker, to pay a certain sum of money only to, or to the order of, a certain person, or to the bearer of the instrument*".

2. **Bill of exchange**: Section 5 of the NI Act defines Bill of exchange as "*is an instrument in writing containing an unconditional order, signed by the maker, directing a certain person to pay a certain sum of money only to, or to the order of, a certain person or to the bearer of the instrument*".

Negotiable instruments, like cheques and bills of exchange, are on a clear decline in usage due to the prevalence of modern digital payment methods. The speed, convenience, and security offered by electronic transactions have overshadowed the traditional paper-based instruments. Furthermore, it cannot be argued that negotiable instruments provide a trackable record of transactions, because electronic transfers also provide a record of transactions which is much easier to store in comparison to tangible record of transactions.

ELECTRONIC FUNDS TRANSFER

Provisions for regulation of payment systems in India is provided under PSS Act. The RBI has been authorised under the PSS Act to regulate and supervise payment systems in India. Through the BPSS, the RBI exercises its powers and perform its functions which are provided under the PSS Act. The PSS Act contains provisions related to authorisation of payment systems, rights and duties of a system provider, settlement of disputes, etc.

The RBI came up with regulations under Board for Regulation and Supervision of Payment and Settlement Systems Regulations, 2008 and Settlement Systems Regulations, 2008. These regulations, along with the PSS Act came into force on August 12, 2008.

Section 2(c) of the PSS Act provides the following definition of the term 'electronic fund transfer":

" *"electronic funds transfer" means any transfer of funds which is initiated by a person by way of instruction, authorisation or order to a bank to debit or credit an account maintained with that bank through electronic means and includes point of sale transfers, automated teller machine transactions, direct deposits or withdrawal of funds, transfers initiated by telephone, internet and card payment;*"[17]

Various types of electronic fund transfers are mentioned below:

1. **Electronic fund transfer through Immediate Payment Service:**

   Immediate Payment Service (**IMPS**) is a method or a mechanism to transfer money to the beneficiary's account immediately. This service is also available on weekends as well as bank holidays. An IMPS can be initiated through ATM, mobile phones as well as through net-banking.

2. **Electronic fund transfer through Real Time Gross Settlement:**

   RTGS is a mechanism or a mode through which funds/money can be transferred electronically. However, the minimum amount to be transferred should be INR 2 Lakh for initiating payment through this electronic mode of payment. This mode of payment usually takes around thirty minutes to get the funds/money transferred to the beneficiary's account.

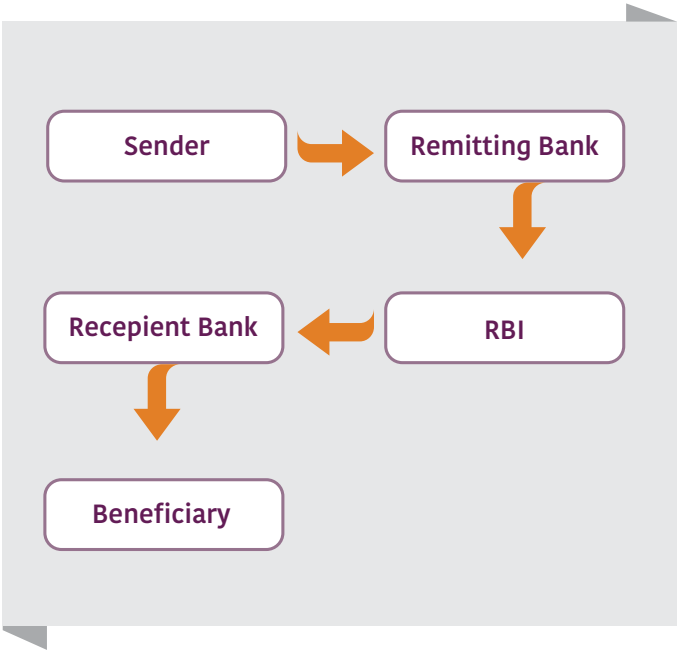
16. Sunil Todi v. State of Gujarat, 2021 SCC OnLine SC 1174.
17. Section 2(c), The Payment and Settlement System Act, 2007.

3. **Electronic fund transfer through National Electronic Fund Transfer:**

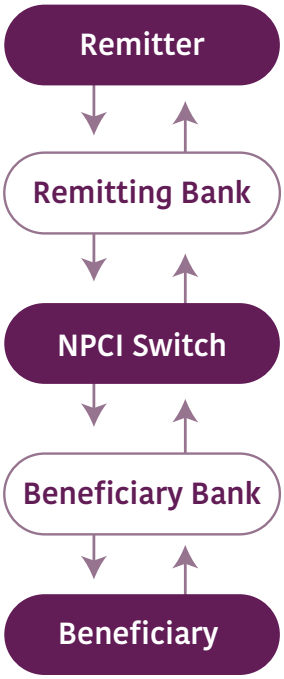
NEFT is one of the most used modes of electronic fund transfer in India. However, transfer through NEFT cannot be initiated during bank holidays or weekends. Further, it should be noted that there is no set upper limit of fund transfer through NEFT.

RTGS and NEFT, owned as well as operated by the RBI[18], are considered to be Centralised Payment Systems (**CPS**) in India. Whereas IMPS is an initiative of the NPCI.

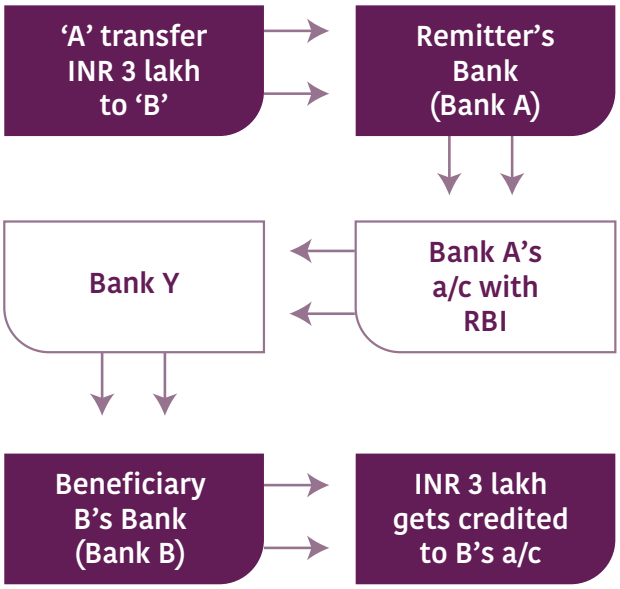
NEFT Transaction Process



IMPS Transaction Process



RTGS Transaction Process



18. RBI, *FAQs on Access for Non-banks to Centralised Payment Systems*, available at Reserve Bank of India (rbi.org.in).

4. **Electronic Clearing Service:**

The RBI had introduced Electronic Clearing Service (**ECS**) in the 1990s. It facilitates transfer of funds from one bank account to another through the services provided by Clearing House. This is used for bulk and repetitive transactions for one account to multiple accounts or from multiple accounts to one account. Since, its introduction, the platform has grown and scaled up to handle large volumes.

There are two types of ECS:

i. Debit ECS

ii. Credit ECS

Debit ECS is used for raising debit form multiple accounts for crediting a particular institution.

Credit ECS is used for crediting multiple accounts through a single debit to an account. This is usually used for payment of salaries, interest, dividends, etc.

National Automated Clearing House (**NACH**), a centralised ECS system was introduced and is operated by NPCI. The objective behind the formulation of NACH was to come up with a centralisized ECS system by bringing together the multiple ECS systems running across the country. Like ECS credit and ECS debit, there is NACH credit as well as NACH debit. When multiple credit transfers are to be made from one entity, for purposes such as payment of salary, payment of dividend, etc. NACH credit is used. Whereas, when collection from multiple accounts to one is to be done, NACH debit is used.

Pursuant to Section 25 of the PSS Act, should an electronic fund transfer initiated by an individual from an account under the maintenance be incapable of fulfillment due to insufficient funds, or because if the amount to be transferred surpasses the sum established for disbursement from that account pursuant to a contractual agreement with a bank, the said individual may be subject to a maximum imprisonment term of two years or a fine equivalent to twice the specified amount.

It is crucial to acknowledge that Section 25(5) mandates the applicability of Chapter XVII of the NI Act in cases involving the dishonoring of an electronic fund transfer. Section 138 of the NI Act explicitly outlines provisions governing the penalisation of dishonored cheques. The pivotal distinction lies in the fact that, in the former instance, the subject matter of the offense pertains to the dishonor of an electronic fund transfer, as opposed to that of a physical cheque.

In the mater of ***Ritu Jain v. The State***[19],it was asserted by the court (represented by the standing counsel) that pursuant to Section 25(5) of the PSS Act, the stipulations delineated in Chapter XVII of the NI Act are made applicable in cases involving the dishonor of an electronic fund transfer, to the extent that the circumstances permit. Therefore, when invoking Section 25 of the PSS Act, Section 138 of the NI Act is concurrently invoked, as circumstances dictate.

The RBI has officially published the "*Payment and Settlement Systems in India: Vision 2019-2021*" (**Vison**) on its website. The Vison, centered around the core theme of 'Empowering Exceptional (E) payment Experience', endeavors to furnish each Indian citizen with access to a range of electronic payment alternatives that are characterised by safety, security, convenience, expediency, and cost-effectiveness. The publication provides 36 specific action plan and 12 specific outcomes, aspires to enhance customer experience, including robust grievance redressal, empower payment System Operators and Service Providers, enable the payments Eco-system and Infrastructure, put in place Forward-looking Regulations and undertake Risk-focused Supervision. The 'no-compromise' approach towards safety and security of payment systems remains a hallmark of the Vision[20].

5. **Trade Receivables Discounting System**

Micro, Small and Medium Enterprises (**MSMEs**) are very important for the growth of the country's economy. MSMEs contribute for nearly half of country's exports[21]. However, these enterprises often grapple with cash flow and liquidity challenges due to delayed payments from counterparts. Therefore, the RBI came up with the

19. Ritu Jain v. State Through Standing Counsel and Anr., 2019 SCC OnLine Del 7829.
20. RBI, *Payments and Settlement Systems in India: Vision – 2019-2021*, available at Reserve Bank of India - Reports (rbi.org.in).
21. Dr. Prashant Prabhakar, *Underscoring contribution of MSME sector to economic growth in India*, available at Underscoring contribution of MSME sector to economic growth of India (indiatimes.com).

concept of Trade Receivables Discounting System (**TReDS**), which are authorised payment system under the PSS Act. TReDS is a platform which allows the enterprises to finance/discount their invoices or trade receivables.

Factors, banks as well as Non-Banking Financial Corporations (**NBFC**) are allowed by the RBI to act as financers on these platforms. Furthermore, RBI also permits payable factoring (i.e, reverse factoring) as well.

6. **Cards**

A credit card is a payment instrument that grants the cardholder a predetermined line of credit, which allows them to make purchases or engage in transactions up to a specified limit. The card holder is obligated to repay the borrowed amount, typically on a monthly basis, along with any accrued interest and fees. Failure to meet these obligations may result in legal consequences, including but not limited to imposition of interest, penalties, and potential legal action by the issuing financial institution.

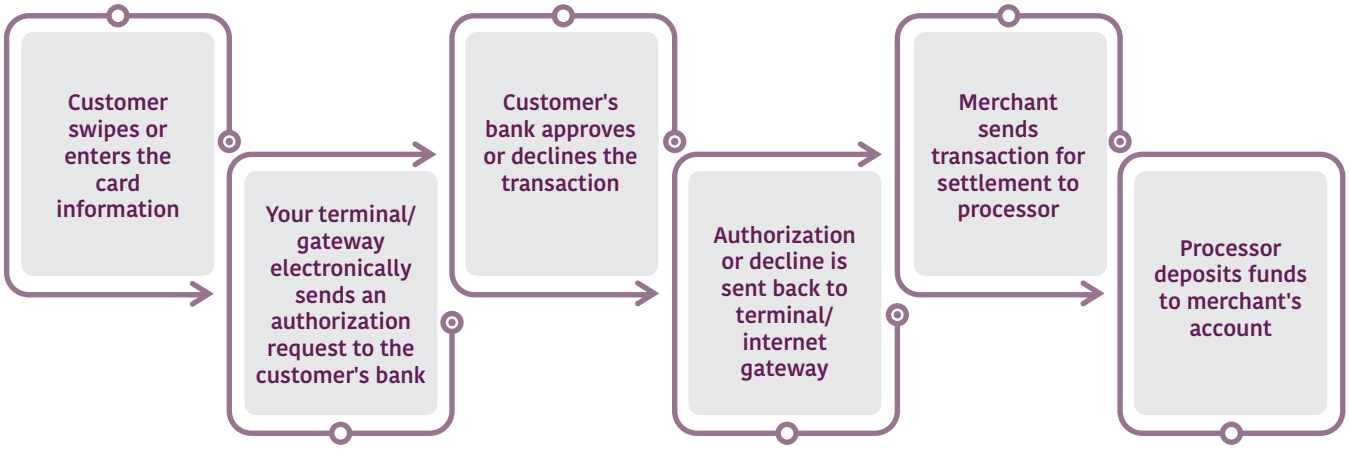
A debit card is a banking instrument that enables the cardholder to access their own funds held in a linked bank account. When used, funds are immediately deducted from the account balance, thereby facilitating real time transactions. Unlike credit cards, a debit card does not involve borrowing and, consequently, does not accrue interest. A debit card is like having direct access to our bank account in a plastic form. It's handy for everyday expenses, and it ensures we only spend what we actually have.

The RBI promulgated the Master Directions on Credit Card and Debit Card- Issuance and Conduct Directions, 2022 (**Cards Master Directions**) on April 21, 2022, with an effective commencement date of July 01, 2022. The primary aim of these directions was to regulate the conduct of cards (both credit as well as debit) within banks and NBFCs.

According to the Frequently Asked Questions (**FAQ's**) on Card Transactions published by the RBI, it has been clarified that credit cards are issued by scheduled commercial bank (excluding Payments banks), Regional Rural Banks (in collaboration with other banks), and Urban Cooperative Banks, Non-Bank Financial Companies (subject to approval of the RBI)[22].

The Cards Master Directions are applicable on every Scheduled Bank (excluding Payments Banks, State Co-operative Banks, and District Central Co-Operative Banks) and all NBFCs.

Debit Card Transaction Process



22. RBI, *FAQs on Credit Card Transactions, Reserve Bank of India*, available at Reserve Bank of India (rbi.org.in).

Credit Card Transaction Process

7. Digital Wallets

Instruments that come with preloaded value and are utilised to purchase goods and services are known as Prepaid Payment Instruments (**PPI**). Mobile wallets or digital wallets are the best example of PPIs. Master Direction on Issuance and Operation of Prepaid Payment Instruments (**PPI Directions 2017**) were issued by the RBI on October 11, 2017. The PPI Directions were issued by the RBI under the Section 18 read with Section 10 (2) of the PSS Act. After various amendments to the PPI Directions 2017, the RBI came up with Master Directions on Prepaid Payment Instruments on August 27, 2021 (**2021 PPI Directions**)[23]. A software-based or an application-based system, which allows the user to make payments or receive payments, can be called a digital wallet. Digital wallets are popular as they offer quick and convenient way to pay electricity bills, book movie & travel tickets book hotels, etc., making them instantly popular. These wallets can also be used to transfer funds/money from one account to another. Fund transfer limits are calculated on the basis of available information and may vary from bank to bank.

The RBI guidelines have restricted the liability of the consumer in case of unauthorised transactions made from mobile wallets. Further,

23. RBI, *Master Directions on Prepaid Payment Instruments (PPIs)*, available at Reserve Bank of India - Master Directions (rbi.org.in).

it has been provided in the guidelines that a 24*7 customer care or helpline should be established by the mobile wallets so that the consumers can immediately report any fraudulent or unauthorised transactions.[24]

8. Unified Payments Interface

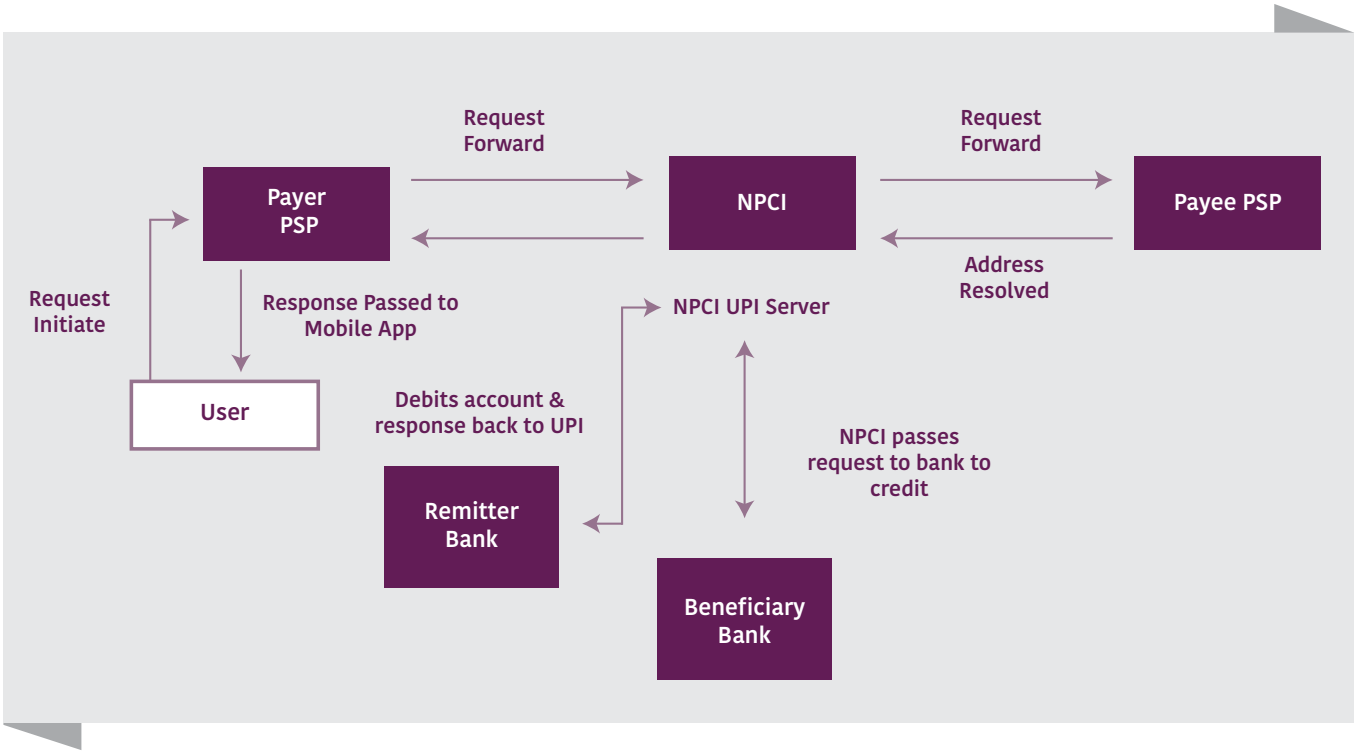
Backed by the Indian Banks Association, the RBI established the NPCI to operate the retail payments and settlement systems in India, with leading banks as stakeholders.

In 2016, the NPCI introduced an interface called UPI to facilitate inter-bank transactions. Ease of secured transfer of money from one bank account to another bank account is the main function of UPI.

Important features of UPI:

- One of the key features of UPI is that it allows a person to use his/her smartphone for all form of payments – person to person, person to entity, and entity to person.
- It allows/permits the users to make transactions through more than one bank account through a single app so that the user is not required to access/use different application for every bank account that he/she has.
- Another interesting feature of UPI is that it allows both, the sender (i.e., the payer) as well as the receiver (i.e., the payee) to initiate the payment. Therefore, UPI allows to pay as well as collect money.
- UPI provides every user a Virtual Payment Address (**VPA**), this helps the user to send or receive money without disclosing the sensitive details such as bank account number and other account details to third party applications.
- UPI uses 2 (two) factor authentication for additional security.

In the month of August 2023, UPI surpassed 10 billion monthly transactions worth INR 15.18 trillion (USD 204.77)[25].



24. *Ibid.*
25. Shouvik Das, *UPI crosses 10 billion monthly transactions, confirms NPCI, Live Mint*, available at UPI crosses 10 billion monthly transactions, confirms NPCI | Mint (livemint.com).

Consequent to obtaining approval from the board and the RBI, the NPCI International Payments Limited (**NIPL**) was duly established as a wholly-owned subsidiary of the NPCI on April 3, 2020. It is exclusively dedicated to the deployment of RuPay and UPI beyond the borders of India. NIPL is in the process of establishing an extensive acceptable network for RuPay and UPI, enabling Indian travelers to utilise these payment channels in their destination countries.

9. **Money Transfer Service Scheme**

Under the scheme there is a tie-up between reputed money transfer companies abroad known as 'Overseas Principals' and agents in India known as 'Indian Agents' who would disburse funds to beneficiaries in India at ongoing exchange rates. Transfer of funds from abroad to the beneficiaries in India is made possible through Money Transfer Service Scheme (**MTSS**). Through MTSS only personal remittances can be transferred to Indian beneficiary for family maintenance and remittances favoring foreign tourists visiting India. An overseas principal (a reputed money transfer company) and agent in India have a tie-up, and the Indian agents performs the act of disbursing fund to the Indian beneficiary. It is pertinent to note that trade related fund transfers, fund transfer related to purchase of property or for investments or credit to Non-Resident External Accounts (**NRE Account**) cannot be done through MTSS.

Furthermore, it should be noted that there is a limit of 30 (thirty) remittance every calendar year under MTSS. There is also cap of USD 2,500 on individual remittance.

10. **Rupee Drawing Arrangement**

Receiving remittances in India from overseas jurisdiction can be made possible through Rupee Drawing Arrangement (**RDA**). Under RDA, there are tie-ups between an Authorised Category I bank and an Exchange House (non-resident) in a country which is Financial Action Task Force (**FATF**) compliant. Through this tie-up, Authorised Category I bank opens and maintain a 'Vostro Account' of the Exchange House. It is pertinent to note that this scheme does not make the cross-border outward remittances possible.

Remittances for financing of trade transactions are permitted up to INR 15 lakh. For other transactions, there is no cap on the number of transactions or on the remittance amount. The remittance under this scheme has to be compulsorily credited to the bank account of the beneficiary as cash disbursement is not permitted.

11. **UPI-PayNow Linkage**

Account holders of the participating banks and financial institutions in India and Singapore can do the cross-border remittance transactions through the UPI-PayNow linkage.

Cross-border remittance between India and Singapore are now made easy through UPI-PayNow linkage. Through this linkage those who hold account with participating banks and financial institutions in India and Singapore can easily do cross-border remittance transactions.

Six banks (Axis Bank, DBS Bank, ICICI Bank, Indian Bank, Indian Overseas Bank and State Bank of India) are considered as participating banks for receiving remittance and four banks (ICICI Bank, Indian Bank, Indian Overseas Bank and State Bank of India are considered as participating banks for sending remittance.

Person to Person remittances for only 'Gift' or 'Maintenance of Relatives Abroad' under the Liberalised Remittance Scheme (**LRS**) are allowed through UPI-PayNow linkage transactions. Furthermore, it should be noted that the prescribed LRS limits will be applicable on the transaction made through UPI-PayNow linkage.

Growth of Digital Payments:

Digital payments have grown to 1623-crore transactions aggregating to INR 3435 lakh crore in FY 2019-20 from 498 crore transaction totaling INR 96 lakh crore in FY 2010-11[26].

Furthermore, Compound Annual Growth Rate (**CAGR**) in retail electronic payments (NEFT, IMPS,UPI, and ECS)[27] touched 55% in the past 10 years.

Further, in the past nine years, e-Money issued in the form of wallets and prepaid cards demonstrated an increased adoption with a CAGR of 91% and 56% in terms of volume and value, respectively.[28].

26. RBI, *Payment and Settlements in India Journey in the Second Decade of Millennium*, available at Payment Systems in India - Booklet (rbi.org.in).
27. *Ibid.*
28. *Ibid.*

Conclusion:

It can be concluded that the payment systems in India have evolved significantly over the years, driven by technological advancements and regulatory reforms. The adoption of the digital payment methods, such as UPI and digital wallets, has revolutionised the way transactions are undertaken in the country.

The shift towards a cashless economy has not only enhanced convenience for consumers, but also paved the way for financial inclusion and reduced the dependency on physical currency. However, challenges like addresing cybersecurity concerns and ensuring access for all segments of society remain pertinent. The continued collaboration between government, financial institutions, and technology providers will be crucial in furthering the development and resilience of payment systems in India. India's vision of being a cashless economy can only be realised if all the actors come together to make the digital payment systems robust and safe. Only this can develop confidence in people to undertake more and more transactions through the digital mode.


पाँच सौ रुपये
RESER
GANDHI

04

Clearing and **Settlement** Systems

Automated Clearing House

The NACH serves as India's automated clearing house, providing a centralized electronic payment service for banks, corporations, financial institutions, and the government. It was established by the NPCI with the aim of implementing best practices in electronic transactions. NACH was developed as an improvement over the ECS, which it replaced in May 2016.[29]

NACH enables the seamless execution of high-volume electronic transactions, both periodic and repetitive, throughout the country without any geographical limitations. A unified set of rules governs all users, service providers, and participants of the NACH system.

The NACH system is utilized for the efficient distribution of subsidies, dividends, interest, salary, pension, and other bulk transactions involving payments for telephone, electricity, water, loans, investments in mutual funds, insurance premiums, and more.

29. NPCI, National Automated Clearing House (NACH) available at https://www.npci.org.in/PDF/nach/Product-Booklet.pdf.

Real-Time Gross Settlement (RTGS)

The abbreviation "RTGS" stands for Real Time Gross Settlement, which refers to a system where fund transfers are settled continuously and in real-time on an individual transaction basis, without netting. In this system, instructions are processed promptly upon receipt Real Time, and the settlement of funds transfer instructions occurs individually Gross Settlement. As the settlement takes place in the books of the RBI, the payments become final and cannot be reversed. RTGS provides advantages such as fast, convenient, and secure transfers, but there are also drawbacks, including liquidity risk for participating financial institutions and transaction limitations.[30]

RTGS is distinguished from deferred net settlement systems, where banks accumulate and consolidate transactions before transmitting the data to the central or clearinghouse bank responsible for clearing and settlement processes. Additionally, RTGS differs from Automated Clearing House transactions, which are processed in batches and often require several days to clear.

National Electronic Funds Transfer (NEFT)

NEFT, which stands for National Electronic Funds Transfer, is an electronic funds transfer system established and operated by the RBI. Introduced in November 2005, NEFT facilitates the seamless online transfer of funds between NEFT-enabled bank accounts.[31]

Features

The NEFT system is one of the various methods of online money transfer. It is regulated by the RBI and hence, works as per the guidelines laid down by RBI.

- NEFT serves as a one-to-one payment facility.
- NEFT transactions can only be processed between banks that offer NEFT-enabled services.
- NEFT transactions are not conducted in real-time, meaning that it takes a few days for them to be completed.
- Previously, the RBI had specific timings for NEFT transactions, restricting them to be processed between 8:00 AM and 6:30 PM from Monday to Friday and 8:00 AM to 12:00 PM on Saturdays. However, starting from 2020, NEFT transactions can be performed 24/7.
- To initiate fund transfers via NEFT, it is necessary to add beneficiaries on the Internet Banking portal of the relevant bank.
- There are no limitations on the amount of funds that can be transferred through NEFT.
- A fee applies to all NEFT transactions, ranging from INR 2.5 to INR 25, depending on the transferred amount.[32]

Steps-wise flow of NEFT transactions

Step-1: To transfer funds through NEFT, an individual, firm, or corporate can utilize the Internet or mobile banking facility provided by their bank. Using these platforms, the remitter must input the necessary details of the beneficiary, including their name, the bank branch where their account is held, the IFSC code of the beneficiary's bank branch, account type, and account number. These details are required for adding the beneficiary to the remitter's internet or mobile banking module. Once the beneficiary has been successfully added, the remitter can initiate an online NEFT funds transfer by authorizing the debit from their own account. Alternatively, the remitter can visit their bank branch to initiate NEFT funds transfer through the branch or offline mode. In such cases, the customer must complete the NEFT application form provided at the bank branch, providing the necessary beneficiary details. Additionally, the customer must authorize the branch to debit their account for the requested amount mentioned in the NEFT application form.

Step-2: The bank from where the funds transfer originates prepares a message and transmits it to its pooling centre, which is also known as the NEFT Service Centre.

Step-3: The pooling centre then transfers the message to the NEFT Clearing Centre, which is operated by the RBI, for inclusion in the next available batch.

Step-4: At the Clearing Centre, the funds' transfer transactions are sorted based on the beneficiary banks, and accounting entries are created to receive funds from the originating banks (debit) and transfer the funds to the beneficiary banks (credit).

30. RBI, *FAQs on Real Time Gross Settlement System (RTGS) System*, available at https://www.rbi.org.in/Scripts/FAQView.aspx?Id=65.
31. RBI, *FAQs on National Electronic Funds Transfer (NEFT) System*, available at https://rbi.org.in/Scripts/FAQView.aspx?Id=60.
32. RBI, *FAQs on National Electronic Funds Transfer (NEFT) System*, available at https://rbi.org.in/Scripts/FAQView.aspx?Id=60.

Subsequently, remittance messages specific to each bank are sent to the beneficiary banks via their pooling centres (NEFT Service Centre).

Step-5: The beneficiary banks receive the incoming remittance messages from the Clearing Centre and proceed to credit the respective beneficiary customers' accounts.[33]

NEFT v. RTGS

Point of Difference	NEFT	RTGS
Minimum amount to be transferred	INR 1	INR 2 lakh
Maximum amount to be transferred	No limit	No limit
Type of Settlement	Amount settled in batches	Amount settled one-on-one
Type of Settlement	2 Hours	Immediate
Transfer Timings	24*7, all 365 days	Varies from bank to bank
Mode of Transfer	Both online and offline	Both online and offline
Additional Charges	No charges applicable	INR 30 on outward transactions between INR 2 lakh and INR 5 lakh; INR 55 on outward transactions of more than INR 5 lakh

Centralised Funds Management System (CFMS)

The RBI (referred to as the 'Bank') has established, operated, and maintained the CFMS. This system enables secure operations on current accounts held at different offices of the Bank using standardized message formats. The CFMS consists of two components: the Centralised Funds Enquiry System (**CFES**) and the Centralised Funds Transfer System (**CFTS**).[34] These components are made accessible through the following sub-systems:

i. Apex Level Server (**ALS**)

ii. Local Funds Managemwent System (**LFMS**)

iii. Bank Level Funds Management System (**BLFMS**)

iv. Local Banks Funds Management System (**LBFMS**)

The ALS is the software component located in the mainframe computer systems presently housed in Mumbai. The LFMS is the software component that operates from server systems at the Bank's Regional Offices where the Deposit Accounts Department (**DAD**) is established. The BLFMS is the software component provided by the Bank to CFMS members for use by the Treasury Department/Central Accounts Department. The LBFMS is the software component offered by the Bank to CFMS members for accessing facilities at each local DAD. In all cases and matters, the time stamps applied by the ALS on transactions and events will be considered the applicable time stamp.[35]

Eligibility Criteria

Any entity that holds a current account with the Bank and is a member of INFINET is eligible for membership to the CFMS. The Bank holds the authority to grant, suspend, or revoke admission to the CFMS at its sole discretion. Applications for CFMS membership must be directed to the Regional Director of the RBI's DAD, which maintains the institution's current account. The respective DAD will process the application and provide access, subject to the following conditions:

a. A declaration of on-site readiness by an officer of at least the rank of General Manager.

b. Possession of a valid INFINET Membership certificate.

c. Maintenance of a current account with the relevant DAD.

No referrals or requests to any Central Office Department shall be made in order to obtain CFMS membership.

33. RBI, *FAQs on National Electronic Funds Transfer (NEFT) System*, available at https://rbi.org.in/Scripts/FAQView.aspx?Id=60.
34. RBI, *Centralised Funds Management System (CFMS) - Operating Guidelines*, available at Reserve Bank of India - Database (rbi.org.in).
35. *Ibid.*

Transaction Types

The CFMS provides the following types of facilities:

- Enquiries regarding the operation of the current account(s) maintained with any of the DAD.
- Fund transfers between accounts held by the same account holder but at different DAD.[36]

Payment and Settlement System in India

In India, the RBI is responsible for overseeing payment systems. The Board for Regulation and Supervision of Payment and Settlement Systems, chaired by the Governor of RBI, takes charge of this responsibility. To further emphasize its focus on payment and settlement systems, the RBI established the Department of Payment and Settlement Systems in 2005. Subsequently, the PSS Act was enacted, paving the way for a new era in the history of payment systems in the country.

FUNCTIONS IN A PAYMENT SYSTEM

The payment system can be broadly classified into three categories: wholesale payment system, retail payment system, and securities settlement system. Participants in a payment system can perform four key functions: transmitting money, set-off, netting, and consolidation.[37]

NETTING AND SETTLEMENT

Netting and settlement play crucial roles in payment transactions. According to Section 4 of the PSS Act, only the RBI is authorized to commence or operate a payment system in India. While the RBI operates its own payment system as a banker to commercial banks, it is important to understand the concept of a payment system.

CLEARING PROCESS

The clearing is a vital step that must be completed before a settlement trade can be executed in the payment system. In essence, it involves the reconciliation of funds from the payer's account to the recipient's account. Every payment instruction from the payer must undergo a clearing process to ensure the availability of sufficient funds and to maintain accurate transaction records.

SETTLEMENT PROCESS

Settlement is the subsequent phase after clearing in the payment process, encompassing the transfer of funds from the payer to the payee. It involves fulfilling a payment obligation by referencing the underlying transaction.

As per the PSS Act, settlement is defined as the resolution of payment instructions, including those related to securities, foreign exchange, derivatives, or other transactions that entail payment obligations.

During settlement, a reference to an underlying obligation is conveyed through a payment instruction, which is initiated by one participant of the payment system and received by another participant. The underlying obligation can pertain to funds, securities, foreign exchange, or derivative instruments. A payment instruction refers to any form of instrument, authorization, or order, including electronic means, to facilitate payment from one person to a system participant or from one system participant to another, as defined in the PSS Act.

A system participant typically refers to a bank or any entity involved in a payment system, including the system provider responsible for operating an authorized payment system. Therefore, a settlement transaction can occur between two settlement participants or between a customer and a payment participant. In a settlement transaction, there is an offsetting of obligations among the payment system participants. The process involves debiting and crediting of funds between banks. Settlement can further be categorized as bilateral versus multilateral settlement and net versus gross settlement. The bilateral settlement involves offsetting payment obligations between two parties, whereas multilateral settlement entails offsetting payment obligations among more than two parties.[38]

Clearing Corporation of India (CCIL)

The CCIL operates as a central counterparty in financial market segments that fall under the regulation of RBI. Established in 2001, it serves as a secure platform for systemically important payment systems. The CCIL acts both as a Central Counter Party (**CCP**) and a designated Trade Repository (**TR**) authorised by RBI. It fulfils the role of a CCP in various segments, including

36. RBI, *Centralised Funds Management System (CFMS) - Operating Guidelines*, available at Reserve Bank of India - Database (rbi.org.in).
37. *Payment and Settlement Systems: A Primer*, available at Payment and Settlement Systems: A Primer – Vinod Kothari Consultants.
38. *Payment and Settlement Systems: A Primer*, available at Payment and Settlement Systems: A Primer – Vinod Kothari Consultants.

government securities, USD-INR and foreign exchange forwards, collateralized borrowing and lending obligations. Additionally, it offers trade repository services, facilitating non-guaranteed settlement in rupee-denominated interest rate swaps and forward rate agreements, as well as cross-currency trade settlement through Continuous Linked Settlement. Another key function of the CCIL is serving as a TR for Over-the-Counter derivative transactions. In this capacity, it aids in the clearing, settlement, and recording of financial transactions.[39]

Negotiated Dealing System-Order Matching (NDS-OM)

NDS-OM, owned by RBI and operated by CCIL on its behalf, is a screen-based order-driven trading system designed for trading government securities. It operates as a straight-through-processing (**STP**) system, meaning that all trades are directly sent to CCIL for settlement. The assessment of NDS-OM follows the prescribed methodology for PFI (Payment and Settlement Systems Framework for Assessment of Critical Service Providers) to ensure its reliability and security as a critical service provider.[40]

Securities Settlement System

CCIL, authorized by RBI as a (**FMI**) under the PSS Act, serves as a CCP and TR for various segments of the financial market. It plays a crucial role as a liquidity provider and secondary market platform for government securities. Acting as a CCP, CCIL ensures guaranteed settlement with the benefits of multilateral netting for trades executed on its platform. Settlements, which occur on a T+0 to T+2 basis, are facilitated through platforms like NDS-OM, CROMS, and TREPS.

CCIL also acts as a clearing and settlement agent for money market securities transactions and settles inter-bank cash, spot, and forwards in the USD-INR market. Forex trades are validated and matched, and settlement takes place through a multilateral netting procedure, with CCIL determining the net amount payable and receivable. Forex settlements occur on a payment versus payment (**PVP**) basis, where the INR leg is settled through the member's current account at RBI, and the USD leg is settled through CCIL's USD account with its settlement banks.

To ensure financial stability, CCPs are required to maintain sufficient net worth to cover potential business losses. RBI has mandated a net worth of INR 300 crore for CCPs seeking authorization or recognition to operate in India. As a trade repository, CCIL has emerged as a critical FMI, particularly in the OTC derivatives market, following the global financial crisis. In the repo transactions, CCIL serves as both a clearing and settlement bank, as well as a tri-party agent. While the clearing bank settles repo transactions on its balance sheet, a tri-party agent is responsible for collateral revaluation, margining, income payments on collateral, and substitution of collateral. However, a tri-party agent can also function as a clearing bank, subject to prior approval from RBI, similar to CCIL.[41]

Wholesale Settlement System

Banks and clearing entities play a crucial role in facilitating wholesale payment systems or large-value payment system (**LVPS**) transactions. These transactions involve higher values but lower volumes compared to other payment systems. To ensure the smooth processing of these transactions, system participants must maintain significant liquidity throughout the day. As a result, only banks and large clearing houses, which possess relatively large capital and are subject to stringent regulations, have access to the intra-day liquidity facility provided by RBI.[42]

39. *Ibid.*
40. *A Primer*, available at Payment and Settlement Systems: A Primer – Vinod Kothari Consultants.
41. *Ibid.*
42. *Ibid.*

05

Non-banking **payment service** providers in **India**

Background and History

Historically, banks provided both banking and payment services. In the early days, money was held in a vault and paid out only at branches or the telegraph network was used to "wire money" to a client's payee. With the evolution of technology and increased competition, regulators created a new category – payments services – by separating payments from banking activities, thereby allowing companies that are not banks to make payments. This new area is now serviced by Payment System Providers (**PSP**) and regulated by the country's financial authorities.

Conceptually, non-banking payment service providers were an extension of non-banking financial companies NBFCs. Its importance was recognised by the RBI in the 2000s. In the payment service vision, published by the RBI in 2004, the need for and importance of payment services was recognised. It would enable circulation of money and enhance economic activity. The need for a safe, secure and efficient payment system was felt to complement India's rapid pace of growth. The concept of PSP was furthered by the burgeoning business of e-commerce. New payment mechanisms that helped increase the ease of receiving and making payments would be quickly adopted.

Many banks have created their own PSPs from their payment infrastructures. When using the bank's own payment service, the payment department of the bank is governed by separate regulations. With the introduction of non-bank PSPs, banks had to compete with NBFCs, giving rise to increased competition. This in turn created more diverse and flexible payment arrangements, with fewer single points of failure, implying less reliance on a few major providers due to increasing choice of vendors (**PSPs**), thus making the ecosystem safer, securer and cheaper. This also resulted in widespread financial inclusion. Entities or individuals without access to traditional banks, now had other alternatives. Further, inclusion of non-bank players led to various innovations aimed at ensuring ease and safety of payment services. In 2021, the RBI allowed non-bank PSPs to participate in Centralised Payment Systems (**CPS** - RTGS and NEFT) as direct members, thus increasing their involvement and helping expand their business profile. Prior to this, banks had been providing these services to non-banks[43]. This move by the RBI is being made in a phased manner. The RBI has provided guidance regarding eligibility and the process to be followed for participation and membership in CPS[44]. In the first phase, authorised non-bank PSPs, *viz.* Pre-Paid Instrument Issuers, Card Networks and White Label ATM Operators shall be eligible to participate in CPS as direct members[45].

Further, very few non-bank entities have received approval to participate in CPS so far. The ones that have received membership/ access to CPS are standalone primary dealers, clearing corporations of stock exchanges, central counter parties, retail payment system organisations, select financial institutions (NABARD, EXIM Bank) and DICGC.[46]

Payments Banks

Introduced in 2014, payments banks are a new type of financial institution in India. They provide basic banking services to the unbanked or underbanked. Payments banks cannot offer loans.[47] They can only offer savings accounts, current accounts and mobile banking services. The introduction of payments banks is a significant development in the Indian financial sector.

Payments banks are governed and licensed by the Reserve Bank of India. Payments banks seek to provide financial and payment services to small

43. RBI, *FAQs on Access for Non-banks to Centralised Payment Systems (CPS)*, available at Reserve Bank of India (rbi.org.in).
44. RBI, *Master Directions on Access Criteria for Payment Systems*, available at Reserve Bank of India - Master Directions (rbi.org.in).
45. RBI, *Access for Non-banks to Centralised Payment Systems*, available at Reserve Bank of India - Notifications (rbi.org.in).
46. *Ibid.*
47. RBI, *Operating Guidelines for Payments Banks*, available at Reserve Bank of India (rbi.org.in).

businesses, low-income households and migratory workers in a safe and technology-driven environment. They function as regular banks, but cannot provide credit or loan facilities. They undertake various activities such as:

- Acceptance of demand deposits. Payments banks will initially be restricted to holding a maximum balance of INR 1,00,000 per individual customer.
- Issuance of ATM/ debit cards. Payments banks, however, cannot issue credit cards.
- Payments and remittance services through various channels.
- Business correspondents (**BCs**) of another bank, subject to the Reserve Bank guidelines on BCs.
- Distribution of non-risk, simple financial products such as mutual fund units and insurance products, etc.

The history of payments banks in India can be traced back to 2013. The RBI set up the Comprehensive Financial Services for Small Businesses and Low-Income Households Committee to investigate the feasibility of introducing a new type of bank. This bank would focus on providing basic banking services to people who are currently unbanked. The committee, which was headed by Dr. Nachiket Mor, submitted its report in January 2014. The report recommended the introduction of payments banks. The RBI issued the final guidelines for payments banks in November 2014[48].

In February 2015, the RBI issued a press release stating that it had received 41 applications for payments banks[49]. In August 2015, another press release was issued, stating that 11 applicants were granted in-principle approval[50].

The first payment bank in India, Airtel Payments Bank, was set up in January 2017. Since then, various payments banks have been set up in the country.

Objectives of Payments Banks:

i. Payments banks aim to provide secure, technology-driven payment and financial services to small enterprises, low-income consumers, and the migratory labor workforce

The RBI's payments banks programme aims to improve financial inclusion by providing a small savings account[51].

Regulations for Payments Banks:

i. The required minimum capital is INR 100 crore. The promoter's minimum initial contribution to the paid-up equity capital of such payments banks shall be at least 40% for the first five years from the commencement of its business.

ii. Payments banks are required to maintain a Cash Reserve Ratio (**CRR**).

iii. Foreign shareholding in payments banks would be as per the Foreign Direct Investment (**FDI**) policy for private sector banks as amended from time to time.

iv. Payments Banks must invest minimum 75% of their "demand deposit balances" in Statutory Liquidity Ratio (**SLR**) eligible Government securities/treasury bills with maturity up to one year and hold maximum 25% in current and time/ fixed deposits with other scheduled commercial banks for operational purposes and liquidity management.

v. It must have 25% of its branches in unbanked rural areas. To distinguish itself from other types of banks, the bank must use the term "payment bank" in its name.

vi. Under Section 22 of the Banking Regulation Act of 1949, such banks will be licensed and regulated as payments banks.[52]

48. RBI, *RBI releases Guidelines for Licensing of Payments Banks*, available at Reserve Bank of India - Press Releases (rbi.org.in); RBI, *Guidelines for Licensing of Payments Banks*, available at Reserve Bank of India - Database (rbi.org.in).
49. RBI, *RBI releases Names of Applicants of Small Finance Banks and Payments Banks*, available at Reserve Bank of India - Press Releases (rbi.org.in).
50. RBI, *RBI grants "in-principle" approval to 11 Applicants for Payments Banks*, available at Reserve Bank of India (rbi.org.in).
51. RBI, *RBI releases Guidelines for Licensing of Payments Banks*, available at Reserve Bank of India - Press Releases (rbi.org.in).
52. RBI, *Guidelines for Licensing of Payments Banks*, available at Reserve Bank of India - Database (rbi.org.in).

Payments Banks v. Commercial Banks

Aspect	Payments Banks	Commercial Bank
Deposit Account	Can offer only savings and current accounts	Can offer all types of deposit accounts - savings, current, fixed, recurring, etc.
Lending Activity	Cannot issue loans directly. Can only refer loans	Lending to qualified borrowers is a major activity
Balance Limits	Maximum INR 1 lakh balance limit in savings account	No limits on deposit account balances
Interest Rates	Often lower interest rates on deposits	Higher interest rates typically
Focus	Transferring money and remittances is the primary focus	Remittances offered, but is not the main focus
Regulation	Regulated by the RBI, but with stricter rules	Also regulated by the RBI, but with relatively relaxed rules

Payments Banks v. Small Finance Banks

Aspect	Payments Banks	Small Finance Banks
Deposit Account	Can offer only savings and current accounts	Can offer all types of deposit accounts
Lending Activity	Cannot issue loans. Can only refer loans	Lending to underserved sectors is a major focus
Balance Limits	Maximum INR 1 lakh savings account limit	No such limits on account balances
Target Customer Base	Mainly target low-income groups and small businesses	Focus on unbanked sections and MSMEs
Interest Rates	Typically offer lower interest rates on deposits	Offer competitive interest rates
Ownership	Can be promoted by any corporate entity	Must be promoted by Indian residents
Regulation	Regulated by the RBI, but with stricter rules	Regulated by the RBI, but with relatively relaxed rules

Prepaid Payment Instruments (PPIs)

As per the guidelines provided under the PSS Act, RBI defined PPIs as payment instruments that facilitate purchase of goods and services, including funds transfer, against the value stored on such instruments. The value stored on such instruments represents the value paid for by the holders by cash, debit to a bank account, or by credit card, or even from other PPIs. Pre-paid instruments can be issued as smart cards, magnetic stripe cards, internet accounts, internet wallets, mobile accounts, mobile wallets, paper vouchers and any such instrument which can be used to access the pre-paid amount

(collectively called PPIs hereafter). Pre-paid payment instruments that can be issued in the country, as per RBI, are classified under three categories, viz. (i) Closed system payment instruments (ii) Semi-closed system payment instruments and (iii) Open system payment instruments.[53]

PPIs can come in the form of payment wallets, smart cards, magnetic chips, vouchers, mobile wallets, etc. Any instrument that can be used to access a prepaid amount is a PPI.

TYPES OF PPIS

i. **Closed system**: Closed system payment instruments are valid only when used against purchases from the entity that had issued it in the first place. The use of such PPIs will be invalid when a person tries to purchase items or services from a different provider. This system also does not allow cash withdrawal against the amount that is stored in the PPI. Since this system of PPI is not classified as a payment system by the RBI, their issuance does not require prior RBI approval. Examples of a closed system PPI are paper vouchers or gift vouchers and coupons; it also will include smart cards that can only be used in the establishments that issue them such as metro rail cards and chips.

ii. **Semi-closed system**: PPIs issued under the semi-closed system can be used in multiple establishments, but not all. PPIs under this system can only be issued by RBI-approved banking and non-banking institutions. Such PPIs cannot be issued without prior RBI approval or authorization. They can be used for purchases or remittances, etc., in a group of clearly identified merchants, either by location or by individual establishments that have specific contracts with the issuer of the PPIs to accept PPIs as payment.

iii. Such a contract can also be through a payment aggregator or a payment gateway and does not need to be directly between the issuer and the establishment accepting the PPI as a payment option. Similar to PPIs issued under the closed system, PPIs issued under the semi-closed system too are not allowed to facilitate cash withdrawal, irrespective of whether the PPI is issued by a bank or not.

iv. **Open system**: PPIs under this system can only be issued by RBI-approved banking institutions. These instruments can be used to facilitate purchases, remittances, cash withdrawals, etc. Examples of such PPIs are debit cards and credit cards.

WHO CAN ISSUE PPIS?

i. Banks and NBFCs that comply with the RBI-prescribed capital adequacy requirements from time-to-time, shall be permitted to issue pre-paid payment instruments. All other persons seeking authorisation henceforth, shall have a minimum paid-up capital of INR 500 lakh and minimum positive net worth of INR 100 lakh at all times. Necessary instructions related to compliance with enhanced capital requirements, if any, for existing PPI issuers will be notified separately.

ii. Banks that comply with all eligibility criteria would be permitted to issue all categories of pre-paid payment instruments. However, only those banks that have received RBI approval to provide Mobile Banking Transactions shall be permitted to launch mobile based pre-paid payment instruments (mobile wallets & mobile accounts).

iii. NBFCs and other persons would be permitted to issue only closed and semi-closed system payment instruments, including moile phone based pre-paid payment instruments. [54]

Significant Developments

A committee reviewing customer service standards for RBI regulated entities has recommended the extension of Deposit Insurance and Credit Guarantee Corporation (**DICGC**) to PPI to protect against fraud and unauthorised transactions.[55]

The committee has recommended that the RBI should examine the possibility of extending DICGC cover to the PPI segment, including bank PPIs and later non-bank PPIs. DICGC is a wholly owned subsidiary of the RBI and provides deposit insurance. The

53. RBI, *Master Circular – Policy Guidelines on Issuance and Operation of Pre-paid Payment Instruments in India*, available at Reserve Bank of India - Notifications (rbi.org.in).
54. RBI, *Master Circular – Policy Guidelines on Issuance and Operation of Pre-paid Payment Instruments in India*, available at Reserve Bank of India - Notifications (rbi.org.in).
55. *Deposit insurance cover for PPIs*: How will customers benefit?, The Indian Express, available at Deposit insurance cover for PPIs: How will customers benefit? | Explained News - The Indian Express.

deposit insurance system plays an important role in maintaining financial system stability, particularly by assuring small depositors of protection of their deposits in the event of a bank failure. DICGC insures all deposits such as savings, fixed, current and recurring, including accrued interest. Each depositor in a bank is insured up to a maximum of INR 5 lakh for both principal and interest amount held by them as on the date of liquidation or failure of a bank. Earlier, DICGC used to provide INR 1 lakh insurance cover. However, this limit was raised to INR 5 lakh in 2020.[56]

Payment Aggregators (PAs) and Payment Gateways (PGs)

Companies that facilitate online payments by acting as intermediaries between the customer and the merchant are known as online payment aggregators. However, there are multiple other parties involved when a customer is trying to make an online retail payment involving payment aggregators. The contractual parties in one single payment transaction are buyer, payment aggregator, payment gateway, merchant's bank, customer's bank, and such other parties, depending on the payment mechanism in place. The rights and obligations among these parties are determined ex-ante, owing to the sensitivity of the payment transaction. Further, the participants forming part of the payment system chain are regulated, owing to their systemic interconnectedness along with an element of consumer protection.

PAs are entities that enable e-commerce sites and merchants to accept various payment instruments from customers for completing their payment obligations, without the need for merchants to create a separate payment integration system of their own. PAs facilitate merchants to connect with acquirers. In the process, they receive payments from customers, pool and transfer them to the merchants after a time period.[57] RBI has granted 32 firms in-principle approval to operate as Online PA under the PSS Act. The RBI issued the first guidelines governing the merchant and payment intermediary relationship in 2009[58]. Over the years, the retail payment ecosystem has transformed and these intermediaries, participating in collection and remittance of payments, have acquired the market-used terminology of 'Payment Aggregators'. To regulate the operations of such payment intermediaries, RBI had issued detailed Guidelines on Regulation of Payment Aggregators and Payment Gateways, on March 31, 2021. (**PA Guidelines**).

RBI'S CRITERIA FOR APPROVING AN ENTITY AS PAYMENT AGGREGATOR:

i. Under the payment aggregator framework, only RBI-approved firms can acquire and offer payment services to merchants.

ii. A company applying for aggregator authorisation must have a minimum net worth of INR 15 crore in the first year of application, and at least INR 25 crore by the second year.[59]

iii. It must also be compliant with global payment security standards.

How is a Payment Aggregator different from Payment Gateway?

PG are entities that provide technology infrastructure to route and facilitate processing of online payment transactions without any involvement in handling of funds.[60] PAs, on the other hand, are intermediaries that provide a single platform to connect multiple merchants to different payment processors.

The main difference between a PA and PG is that the former handles funds while the latter provides technology. PAs can offer PG, but the reverse is not true.

56. DICGC, *A Guide to Deposit Insurance*, available at DICGC - For Depositors - A Guide to Deposit Insurance.
57. RBI, *Guidelines on Regulation of Payment Aggregators and Payment Gateways*, available at Reserve Bank of India - Notifications (rbi.org.in).
58. RBI, *Directions for opening and operation of Accounts and settlement of payments for electronic payment transactions involving intermediaries*, available at Reserve Bank of India - Notifications (rbi.org.in).
59. RBI, *Guidelines on Regulation of Payment Aggregators and Payment Gateways*, available at Reserve Bank of India - Notifications (rbi.org.in).
60. *Ibid.*

Online Payment Gateway Service Provider (OPGSP)

In 2010, the RBI had published a set of rules titled 'Processing and Settlement of Export Related Receipts Facilitated by Online Payment Gateways' to address the growing volume of e-commerce transactions in India.[61] According to these regulations, only Authorized Dealer Category-I (AD Category-I) banks were empowered to provide the offer to repatriate export-related remittances by entering into standing agreements with OPGSPs.

Later in 2015, the RBI allowed for processing and settlement of import and export-related payments facilitated by online payment gateway service providers. It said: "it has been decided to permit AD Category-I banks to offer similar facilities of payment for imports by entering into standing agreements with OPGSPs".[62] This was done to broaden the scope of regulatory coverage. To provide quasi-regulatory control over the operations of OPGSP, the AD Category-1 banks function as a layer between the OPGSP and the RBI. While the introduction of the OPGSP regulation does attempt to solve the Payment gateway friction faced by exporters, it is still riddled with challenges and does not provide for a smooth payments experience in cross-border transactions for several emerging and new-age business scenarios.

Despite the introduction of OPGSPs in India, handling the risk, returns and chargebacks continues to be a problem, and the primary reason why many banks are still not utilising the OPGSP framework to its full potential. Therefore, most software companies in India were forced to rely on one of the three: a) Using a foreign payment gateway like PayPal, Stripe – which involved massive transaction costs; b) Setting up a subsidiary office in a foreign country or c) Incorporating in a foreign country and selling globally from there, including India. Compared to option a, the other two seemed more attractive, while also providing ancillary benefits such as international presence for the business.

Payment Aggregator-Cross Border (PA-CB)

INTRODUCTION

The Department of Payment and Settlement Systems of the RBI issued the Circular on Regulation of

61. RBI, *Processing and Settlement of Export related receipts facilitated by Online Payment Gateways*, available at Reserve Bank of India - Notifications (rbi.org.in); *E buzz all around!!!*, available at Article_E-buzz_all_around.pdf (vinodkothari.com).
62. RBI, *Processing and Settlement of Export related receipts facilitated by Online Payment Gateways*, available at Reserve Bank of India - Notifications (rbi.org.in).

Payment Aggregator - Cross Border, on October 31, 2023 (**PA-CB Guidelines**), bringing all entities facilitating online cross-border payments for import and export of goods/ services, under RBI's direct regulation, with such entities being termed as payment aggregators - cross-border (**Cross-Border PA**).

The RBI, by way of PA-CB Guidelines has now opened up cross-border payment aggregation business for non¬bank entities, which was earlier the exclusive domain of AD Banks. Earlier, such entities involved in cross-border payments for import and export of goods and services tied up with Authorised Dealer Category I Banks (**AD Banks**) to operate as OPGSPs and collection agents and were supervised through such AD Banks.

The RBI has now taken a step by bringing Cross-Border PAs under its direct supervision, which provides additional flexibility, such as increased transaction limits (expected to boost total number of cross-border e-commerce transactions), but also shifts certain compliance responsibilities from AD Banks to Cross Border PAs, such as reporting of suspicious transactions to the FIU-IND.

KEY FEATURES

i. Accounts to be Maintained:

   a. **Export Transactions**: Requirement to maintain export collection account (**Export Account**) with an AD Bank (INR and non-INR denominated). Separate Export Accounts to be maintained for each non-INR currency.

   b. **Import Transactions**: Requirement to maintain an import collection account (**Import Account**) with and AD Bank.

ii. Permissible Transactions:

   a. Only transactions for permissible goods/ services under the Foreign Trade Policy may be facilitated by Cross-Border PAs.

iii. Export/ Import Data Processing Monitoring System (**EDPMS/ IDPMS**):

   a. AD Banks to ensure the requirements under Foreign Exchange Management Act, 1999 (**FEMA**), including reporting and reconciliation of entries in EDPMS/ IDPMS.

The following key features have been introduced *vide* the PA-CB:

Categories of Cross-Border PAs: (i) export only Cross-Border PA (**Export PA**); (ii) import only Cross-Border PA (**Import PA**); and (iii) export and import Cross-Border PA (**Export-Import PA**).

FLOW OF FUNDS:

i. Export Transactions: Export proceeds must be entirely credited to the Export Account and thereafter, settled directly in the account of Indian exporter/ merchant, or be routed through a domestic PA.

ii. Import Transactions: Payments for imports to be received in a PA escrow account, which shall then be transferred to the Import Account, and thereafter, be debited from the Import Account to the foreign importer/ merchant or foreign PAs.

KNOW YOUR CLIENT (KYC) REQUIREMENTS

i. Import Transactions: Customer due diligence, as per RBI's extant guidelines to be undertaken by Cross-Border PAs on merchants or e-commerce platforms or PAs overseas, as the case may be. If value of transactions is above INR 2,50,000, customer due diligence on buyer to also be undertaken.

ii. Export Transactions: Customer due diligence, as per RBI's extant guidelines to be undertaken by Cross-Border PAs on Indian merchants or e-commerce platforms or domestic PAs, as the case may be.

ON-BOARDING:

a. Import Transactions: Cross-Border PAs may directly on-board overseas merchants or enter into an agreement with e-commerce platforms/ foreign PAs.

b. Export Transactions: Cross-Border PAs may directly on-board Indian merchants or enter

TRANSACTION LIMITS:

a. The maximum value per unit of goods/ services must not exceed INR 25,00,000.

IMPLICATIONS

OPGSPs/ Collection Agents:

i. Now under direct regulation of RBI, as opposed to supervision through AD Banks.

ii. The PA-CB Guidelines has adopted certain requirements from the erstwhile Cross-Border PA regime, allowing flexibility in activity scope and additional compliance requirements leading to organizational changes.

iii. Will now require a locally incorporated entity to apply for Cross-Border PA authorisation, as opposed to a liaison office.

iv. Flexibility in terms of licensing i.e., Import PA/ Export PA/ Export-Import PA.

v. Flexibility to tie-up with domestic/ overseas PAs, as required for existing/ future business models.

vi. Transaction limits for OPGSPs, now set at INR 25,00,000 per unit of goods/ services, as opposed to ~INR 1,60,000 (USD 2000) for import and ~INR 8,30,000 (USD 10,000) for export transactions.

vii. Risk of bank accounts closure in case of failure to submit evidence of application for authorisation by July 31, 2024.

DOMESTIC PAS:

i. Non-banks players may opt for single authorisation to undertake PA and Cross-Border PA business.

ii. Domestic PAs, awaiting final approval and presently not undertaking Cross-Border PA activity, can apply for Cross-Border PA only after final PA authorization.

iii. Flexibility to tie-up with Cross-Border PAs, to provide cross-border payment services to existing Indian merchants.

FOREIGN PAS/ E-COMMERCE ENTITIES:

i. Flexibility to tie-up with Cross-Border PAs registered with the RBI, to provide services to their existing foreign merchants.

ii. Will be subject to customer due diligence (to be undertaken by Cross-Border PA) as per extant RBI guidelines.

iii. If a foreign PA has partnered with card networks directly to receive funds (for card payments) in an overseas jurisdiction, no requirement for Cross-Border PA authorisation/ tie-up with Cross-Border PA.

Conclusion

The PA-CB Circular is expected to develop the cross-border payment ecosystem:

i. The existing Cross-Border PAs are poised for a major transformation, both in terms of organisation and technology, to align with the stringent requirements of the PA-CB Circular. This will necessitate a substantial financial outlay to implement robust safeguards, establish safe and secure technological infrastructure and adhere to the comprehensive compliance and reporting requirements outlined in the PA Guidelines.

ii. The PA-CB Circular has opened up opportunities for FinTech players to venture into Cross-Border PA services. This has the potential to bring technological expertise to the merchants/ vendors and provide a one-stop solution for cross-border payments.

06

Security, **FRAUD** and **RISK** management

Introduction

The digital payments ecosystem in India has experienced a staggering growth in the past few years. This growth is a cumulative result of the Indian government's emphasis on digitalization, increased access to internet and smartphone penetration. Several initiatives like UPI, Bharat Interface for Money (**BHIM**) app, and the DigiDhan Mission have effectively facilitated the growth of India's digital payment ecosystem. According to the National Informatics Centre, the transaction volume of digital payments in India was at INR 2070 crores in the Financial Year 2017-18.[63] This transaction volume stands at about INR 12,000 crores in the Financial Year 2022-23.

The growth in usage and popularity of digital payments has been accompanied with a growing concern regarding cybersecurity, fraud, data privacy and risk management. RBI has recognized the need for formulating a framework that encourages the growth of the digital payment industry without compromising on privacy and security. In light of this, the RBI has issued multiple directions for the entities involved in the digital payment ecosystem with the aim of ensuring that adequate protective measures are put in place.

63. NIC, *Digital Payments driving the growth of Digital Economy*, available at Digital Payments driving the growth of Digital Economy | National Informatics Centre (www.nic.in).

Reserve Bank of India (Digital Payment Security Controls) Directions, 2021

In February 2021, RBI issued the Reserve Bank of India (Digital Payment Security Controls) Directions. These directions were issued in the light of the increased significance of the digital payment industry and the accompanying need to implement a robust governance structure for security controls. The directions lay down a minimum standard of security controls that must be implemented by Regulated Entities (**REs**) such as the Schedules Commercial Banks (excluding Regional Rural Banks), Small Finance Banks, Payments Banks and credit card issuing Non-Banking Financial Company. Chapter II of these directions lays down a comprehensive set of General Controls and the key takeaways from the directions are as follows:

i. **Board approved policy**: REs have been directed to formulate policies for digital payment products and services with the approval of their board. The policy is expected to incorporate the payment security requirements from the lens of Functionality, Security and Performance (**FSP**). Special emphasis has been laid on the confidentiality of customer data, effective dispute resolution and management of customer grievances. Additionally, REs have been instructed to modify their governance and risk management programs to identify and monitor compliance and fraud risks that are associated with digital payment products and services.

ii. **Benchmarking**: REs have been directed to set qualitative benchmarks for evaluation of the in-built security of the digital payment product or service. In order to stay ahead of any potential security breach, REs should compare actual results against such qualitative benchmarks and modify their business strategies accordingly.

iii. **Risk Assessment**: Before offering any digital payment product or service, REs must assess the operational risks and develop an internal control system to combat them. REs have also been mandated to perform holistic risk assessments and provide adequate safeguards to ensure that customer confidentiality and data integrity is not compromised.

iv. **Generic Security Controls**: In addition to the above requirements, the directions lay down certain generic security controls that must be adopted by the REs. These include the implementation of an appropriate level of encryption within the digital payment ecosystem, the setting up of Web Application Firewall solutions to secure the digital payment products and services, and the prohibition on storing of sensitive information by web applications rendering digital payment services.

v. **Risk Management**: REs must implement configuration aspects aimed at identifying suspicious transactions. This can be done by using parameters such as high transaction velocity in accounts that are generally inactive, excessive activity on a new account, time zones and IP address origin.

vi. **Raising Awareness**: REs must also be proactive with respect to educating their customers about the risks, benefits and liabilities associated with the use of digital payment products and services. REs must raise awareness against potential threats/ attacks and equip the customers with sufficient precautionary measures to ward off such attacks.

vii. **Authentication framework:** Adaptive and multi-factor authentication methods are strong deterrents against fraud and therefore REs have been instructed to incorporate such methods within their authentication framework.

viii. **Application Security Life Cycle**: REs must embed security within the development lifecycle of digital payment applications and undertake Vulnerability Assessment and Penetration Testing of such applications. These tests should be in compliance with established standards such as Open Web Application Security Project (**OWASP**).

ix. In addition to the above security controls, the directions lay down specific guidelines pertaining to internet banking security controls, mobile payments application security controls and card payments. In case of internet banking REs must put in place enhanced levels of authentication including adaptive authentication and strong Completely Automated Public Turing test to tell Computers and Humans Apart (**CAPTCHA**) requirements to prevent exploitation. Further, in order to provide enhanced safety measures for personal data protection, the guidelines prohibit mobile applications from storing sensitive customer information relating to authentication, passwords, keys and hashes and such mobile applications must safely delete

all such sensitive and personal information, when the client exits the application. In respect of card payments, it has been prescribed that details of card holders must be stored in an encrypted from and not in plain text on the RE's system.[64]

Draft Master Directions on Cyber Resilience and Digital Payment Security Controls for Payment System Operators

With an objective to put in place thorough governance mechanisms for identification, assessment, monitoring and management of risks associated with digital payments. The RBI on June 02, 2023 issued Draft Master Directions on Cyber Resilience and Digital Payment Security Controls for Payment System Operators.[65] The draft directions will apply to all authorised non-bank Payment System Operators (**PSOs**) and such PSOs will have the onus of ensuring that unregulated entities that participate in their digital payment ecosystem also adhere to these directions. Under these draft directions, the PSOs will have to formulate an Information Security (**IS**) policy with the approval of their Board. The policy will be aimed at managing potential information security risks, including cyber risk and cyber resilience. The draft recommends PSOs to establish a Cyber Crisis Management Plan (**CCMP**) to respond and recover from cyber threats and attacks.

The draft also emphasizes on the usage of 'Key Risk Indicators' to identify potential risks and 'Key Performance Indicators' to evaluate the effectiveness of security controls. In order to prevent unwarranted access to systems, PSOs have been asked to assign digital identities to individuals and allow access only on a need-to-have basis. For the purposes of security testing, PSOs will have to subject their applications to Vulnerability Assessment and Penetration Testing on a periodic basis. In the interest of ensuring data security, PSOs will be required to establish policies that prevent data leaks and maintain the confidentiality and integrity of customer information.

Section IV of these directions lays down the additional security measures to be undertaken by PSOs for digital payment transactions. Under this section, PSOs are expected to use parameters such as transaction velocity, excessive activity, behavioural biometrics, and geo-location to create a mechanism aimed at identifying suspicious transactions. Additionally, PSOs providing mobile payment services will have to ensure that the mobile application and the device on which it is being operated are not compromised. Regarding card payments, the PSOs will have to make sure that the terminals being used by merchants for capturing card details are validated against the PCI Point-to-Point Encryption program.

64. RBI, *Master Direction on Digital Payment Security Controls*, available at Reserve Bank of India - Master Directions (rbi.org.in).
65. RBI, *Draft Master Directions on Cyber Resilience and Digital Payment Security Controls for Payment System Operators*, available at Reserve Bank of India - Database (rbi.org.in).

Master Direction on Outsourcing of Information Technology Services, 2023

On April 10, 2023, the RBI issued Master Direction on Outsourcing of Information Technology Services, 2023 (**Master Directions**) to ensure that through the outsourcing agreements REs do not dilute their liability to fulfil their obligations. Chapter V of the Master Directions deals with Outsourcing agreements and expressly lays down that the agreement should impose a liability on the service provider to abide by all RBI directions issued on the activities that are being outsourced. Additionally, the service provider is also to be liable for the risk management practices of its sub-contractors. The agreement must also contain clauses that requires the service provider to report data breaches and other adverse events to the RE so that immediate action can be taken for risk mitigation. The RE must have access to the data that is available with the service provider with regards to the outsourced activity, and the service provider must inform the RE about the data that has been captured and stored by it. The agreement should also note that the service provider is bound to comply with the Information Technology Act, 2000 and other regulatory guidelines.

In Chapter VI, the Master Directions lay down a detailed framework for risk management. REs have been directed to review the security practices undertaken by the service provider. In case of a security breach or leakage of confidential customer information, the RE is responsible for informing RBI immediately. The Master Directions emphasize that the service provider and its staff's access to customer information should be on a need-to-know basis to prevent security breaches and the misuse of data. Appendix II to the Master Directions lay down additional measures that must be undertaken by REs that are engaged in the outsourcing of Security Operations Centre. Such outsourcing is accompanied by the risk of data being managed by a third-party and thus, a robust framework is required to be implemented by the RE for risk mitigation. The RE must ensure that it has oversight and ownership over the data/logs, meta-data and analytics.

Chapter II of the Master Directions makes it clear that the ultimate responsibility for the outsourced activity continues to be with the RE. Thus, the RE has to make sure that its service providers are maintaining the same standard of care as the RE would have itself. This obligation flows from the RBI (Digital Payment Security Controls) Directions, 2021 (**Digital Payment Directions**) where REs have been made responsible for the implementing security controls and risk mitigation measures. On a combined reading of the two master directions issued by the RBI, it is evident that the RE cannot be absolved of the responsibilities imposed by the Digital Payment Directions, without full form by simply outsourcing the concerned activities to service-providers.

Conclusion

The threat of cyber-attacks on entities related to the digital payment ecosystem are imminent as can be seen from a recent cyber fraud attack on Kanpur Electricity Supply Company (**KESCo**) involving 1.62 crores.[66] KESCo's website was providing an online bill payment facility wherein the transactions were being directed to KESCo's ICICI bank account. ICICI bank was itself facilitating the concerned payment gateway services. However, the attackers created a parallel ICICI Bank account in the name of KESCo and were successful in obtaining a payment gateway for this parallel account. The attackers exploited the dynamic URL which was being used for payment processing and were able to create a counterfeit URL and fraudulently divert the money into their bank account via the gateway.

In March 2023, reports of scammers committing cyber fraud involving 1 crore rupees and affecting 81 users became widespread.[67] This was a large-scale cyber fraud carried out through the use of UPI platforms. The attackers were sending money to UPI accounts, calling the account holders are requesting them to send back the erroneously sent money. If a user returned the concerned amount, the attackers would infect the user's device with malwares Thereafter, all customer information such as Aadhar, PAN and KYC details would get compromised. Such information could then be used by the attackers to divert money from the user's bank account.

As per RBI's Annual Report 2022-23, there has been a significant increase in the number of frauds within the banking industry. With fraud pertaining to

66. Available at Power Play Gone Wrong: Kanpur's KESCo Suffers 1.62 Crore Cyber Attack, 7 Arrested - The420CyberNews.
67. Available at Power Play Gone Wrong: Kanpur's KESCo Suffers 1.62 Crore Cyber Attack, 7 Arrested - The420CyberNews.

digital payments being the highest.[68] Unless suitable measures and robust mechanisms are effectively implemented, the growth of the digital payment industry will inadvertently lead to a rise in breaches of data privacy and cybersecurity. The comprehensive set of security controls incorporated in the RBI's Master Direction on Security Controls, 2021 is a step in the right direction. Combined with the Draft Master Direction on Cyber Resilience and Digital Payment Security Controls for Payment System Operators, 2023, these directions can be expected to strengthen the cybersecurity framework in the digital payments industry.

68. RBI, *Annual Report 2022-2023*, available at RBI Annual Report, 2022-23.

07

FINANCIAL **INCLUSION** AND **DIGITAL** PAYMENTS

Government Initiatives

Digital payments in India have witnessed a steep growth curve in the past few years and continues with its transformational journey. Following are the initiatives undertaken by the Government to enable digital transactions in the country:

i. **DigiDhan Mission**: The DigiDhan mission was set up at Ministry of Electronics & Information Technology (**MeitY**) in 2017 for the promotion of digital payments through payment modes such as UPI, Unstructured Supplementary Service Data (**USSD**), IMPS, BHIM Aadhaar Pay and Debit Cards. The mission has been the primary catalyst in fostering India's digital payment ecosystem, overseeing its establishment, growth, and sustainability.[69]

ii. **Pradhan Mantri Jan Dhan Yojana (PMJDY)**: The Finance Ministry in 2014 launched the PMJDY to connect every household of the country with the banking system through affordable access to financial services such as savings and deposit

69. MeitY, *Digital Payment se Pragati ko Gati: A Compendium on India's Digital Journey*, available at Compendium.pdf (meity.gov.in).

accounts, remittance, credit, insurance, and pension schemes[70]. Further, the introduction of the RuPay PMJDY card allows the users to make cash transactions at all ATMs, POS terminals and websites, and also offers personal accidental death and total disability insurance coverage.

iii. **Pradhan Mantri MUDRA Yojna Scheme (MUDRA Scheme)**: The MUDRA Scheme aims to promote the growth of the micro-enterprise sector in a sustainable manner. The account holders of this scheme can have access to working capital through a cash credit arrangement. The RuPay MUDRA Card reduces the burden of interest payments by allowing users to make multiple withdrawals and avail credits to manage the working capital limit.[72]

iv. **Digi Dhan Abhiyan**: The Digi Dhan Abhiyan was launched by MeitY to promote cashless transactions amongst citizens, small traders and merchants. It was further aided by Digi Shala, a free-to-air channel, which educates people about the various modes of digital payments. Earlier, NITI Aayog too had organised Digi Dhan Mela to inform, educate and communicate to the masses the merits of a cashless Indian economy.[73]

v. **Direct Benefit Transfer (DBT)**: The DBT program brings transparency and prevents pilferage of Central Government funds.[74] The program allows direct transfer of cash benefits to the Aadhar linked bank accounts of the beneficiaries through a hierarchy of administrative offices. The beneficiary account validation system, a platform for payment and reconciliation integrated with RBI, NPCI, public and private sector banks, regional rural banks, cooperative banks, etc., is a crucial part of DBT. Once a beneficiary is selected, payment instructions are sent to the public financial management system (**PFMS**), which in turn delivers these instructions to banks after validating the beneficiaries.[75]

vi. **Immediate Payment Service (IMPS)**: IMPS was launched on November 22, 2010. It facilitates instant 24x7 interbank fund transfers through mobile, internet, ATM and SMS. The eligibility criteria to participate in IMPS transactions is that the entity should have a valid banking license or prepaid payment instrument license from the RBI to participate in IMPS. Mobile Money Identifier (**MMID**) is a unique 7-digit code that is linked to the mobile number of the beneficiary and helps in the facilitation of transactions through IMPS. The remitter requires the beneficiary's mobile number and MMID to enable IMPS peer-to-peer transfer of funds. In the event that the beneficiary does not have a mobile number registered with the bank for the purpose of an MMID allotment, the beneficiary's account number and the 11 digit alpha-numeric Indian financial system code mentioned in the user's cheque book[76] can be used to enable funds transfer.

vii. **RuPay Card**: In 2009, the NPCI was tasked to build an indigenous card payment system, which led to the development of a separate business unit named RuPay. RuPay is a domestic card payment network in India and offers both credit and debit cards which can be used at ATMs, point-of-sale devices, and e-commerce websites across the country.[77] RupPay Cards can be used in retail outlets and e-commerce sites to make payments. They also allow cash withdrawal at a point-of-sale and allows reversals in cases of transaction disputes[78].

viii. **Unified Payment Interface (UPI)**: The NPCI developed UPI which functions as a real-time payment solution, simplifying money transfers across banks by adding multiple bank accounts to one mobile application. It allows for both financial as well as non-financial transactions. Financial transactions include pay requests wherein the customer initiates fund transfer to the intended beneficiary and collect requests wherein the customer retrieves funds from the intended remitter. Additionally, UPI supports non-financial transactions such as registration for mobile banking, one-time-password generation, set/change PIN, transaction status

70. Press Information Bureau, *Pradhan Mantri Jan-Dhan Yojana* (PMJDY) – *National Mission for Financial Inclusion, completes seven years of successful implementation*, available at pib.gov.in/PressReleaseIframePage.aspx?PRID=1749749.
71. NPCI, *RuPay: The card payment network developed in India for the world*, available at Microsoft Word - RuPay.docx (npci.org.in).
72. *Id.*
73. *Promoting digital payments and transforming India into a less-cash economy*, available at Untitled-1 (loksabhadocs.nic.in).
74. National Informatics Centre, *Direct Benefit Transfer – A blessing during the time of Pandemic*, available at Direct Benefit Transfer – A blessing during the time of Pandemic, National Informatics Centre (www.nic.in).
75. NPCI, *Smart digital voucher solutions for cashless payments*, available at Microsoft Word - e-RUPI SKD v4.docx (npci.org.in).
76. NPCI, *IMPS (Immediate Payment Service) Product Overview*, available at IMPS (Immediate Payment Service): Instant fund transfer, NPCI.
77. NPCI, *RuPay Product Overview*, available at RuPay Credit cards, Debit Cards & International Cards | NPCI.
78. NPCI, *RuPay: The Card Payment network developed in India*, available at Microsoft Word - RuPay.docx (npci.org.in).

check and raising disputes/queries.[79] For UPI based transactions, users have the flexibility to select from various UPI certified apps installed on their mobile phones to make payments at the time of online checkout. The moment a customer selects 'Pay by UPI' during the check-out stage on a merchant app, all the UPI apps linked to the embedded merchant app, or other UPI enabled apps that intend to initiate the payment, are displayed. The customer can then select a preferred UPI enabled app, which opens with the merchant's payment details.

ix. **Bharat Interface for Money (BHIM) app**: The BHIM app is a UPI-enabled app that allows customers to make bank-to-bank payments using mobile number, virtual payment address or by scanning QR codes. Customers can also make bill payments through 'BillPay' which is a feature available on the app.[80]

x. **Aadhaar Enabled Payment System (AePS)**: The AePS is a bank-led model, which allows online transactions at Micro ATM/Kiosk/mobile devices through the authorised business correspondent of any bank using Aadhaar authentication. This service is available to all Indian residents having an Aadhaar Enabled Bank Account (**AEBA**) i.e., an Aadhaar number linked to a bank account.[81] AePS enables users to avail various facilities such as transfer of funds, cash deposits, withdrawal of money, checking of account balance, etc.[82]

xi. **e-RUPI**: e-RUPI is a cashless instrument for making digital payments. It is essentially a voucher that can be used for storing money value to be used for a specific purpose / benefit by a specific beneficiary. Only peer-to-merchant transactions are allowed by the instrument. It allows users to make one-time or multiple-time payments for redeeming vouchers without the use of physical cards, digital payments apps or internet banking.[83]

xii. **Open Credit Network (OCEN)**: OCEN is an open network software launched in 2020 to facilitate the flow of credit between lenders, credit distributors and borrowers. It provides features like automation of laborious manual processes such as customer screening for loan-worthiness and on-boarding. It facilitates interoperability between loan service providers (**LSPs**) and traditional lenders like banks and NBFCs and enables credit to the underserved population of the country *via* apps which are already being used between individuals and micro, small and medium enterprises.[84]

xiii. **Bharat QR**: The NPCI, in collaboration with the RBI's International Card Scheme, developed a common standard QR code called Bharat QR.[85] It allows payments at merchant outlets by scanning the Bharat QR code on the bank's application, enabling transactions across banks for cardholders and UPI users.

xiv. **UPI 123Pay**: UPI 123Pay is an inclusive payment service system through UPI, consisting of the following four technology alternatives:

   a. Voice payment by calling on a number;

   b. missed call based approach;

   c. App functionality in feature phones; and

   d. proximity sound-based payments.

Customers can be onboarded on UPI without the requirement of an internet connection by allowing them to make UPI payments by calling a pre-defined number. Missed call pay involves the customer accessing their bank accounts and making transactions by giving a missed call to a number provided in the merchant's website. The customer then receives an incoming call to authenticate their transaction by entering UPI PIN. The third alternative involves the solution provider partnering with the feature phone mobile manufacturers to enable a native payment app developed in an embedded C language. In proximity sound-based technology and voice-based payments, sound waves are used for making contactless and proximity data communication on the device used to make payments through UPI.[86]

79. National Informatics Centre, *Unified Payments Interface (**UPI**): India's Unified Payment Gateway for real-time payment transactions*, available at Unified Payments Interface (UPI): India's Unified Payment Gateway for real-time payment transactions, Microsoft Word - UPI.docx (npci.org.in).
80. NPCI, *BHIM*, available at BHIM: Bharat Interface for Money, Aadhaar Pay – Pay through Aadhaar Authentication | NPCI.
81. NPCI, *Aadhaar Enabled Payment System (AePS): The inclusive payment system for Indian citizens based on Aadhaar authentication*, available at Microsoft Word - AePS.docx (npci.org.in).
82. NPCI, *Procedural Guidelines for Aadhaar Enable Payment System: Version 2*, available at Procedural Guidelines for Aadhaar Enable Payment System: Version 2.0, Procedural-Guidelines-AePS-V2.0.pdf (npci.org.in).
83. NPCI, *e-RUPI: Smart digital voucher solution for cashless payments*, available at Microsoft Word - e-RUPI SKD v4.docx (npci.org.in).
84. Credable, *What is Open Credit Enablement Network (OCEN)?*, available at What is Open Credit Enablement Network (OCEN)? - Credable.
85. NPCI, *BharatQR Product Overview*, available at Bharat QR Code – Pay Merchants with QR Code | NPCI.
86. NPCI, *123PAY: Empowering feature phones with innovative digital payment capabilities*, available at https://www.npci.org.in/PDF/npci/upi-123pay/Product-Booklet.pdf.

ROLE AND IMPACT OF DIGITAL PAYMENTS ON

Digital payments have brought in financial inclusiveness and opportunities for the marginalised in India. The increase in digital payments has assisted in tackling the barriers faced by individuals in accessing funds to a large extent. During the COVID-19 pandemic, India saw an unprecedented growth in digital payments. The Global Findex Report, 2021, revealed that over 80 million adults made their first digital merchant payment during the pandemic.[87] It was aided by Government initiatives such as PMJDY, Aadhar and India Stack, which pushed India towards an era of cashless payments.[88]

Convenient modes of payments such as BHIM-UPI, IMPS and National Electronic Toll have increased peer-to peer payments in the digital ecosystem. Digital payments have led to a reduction in costs of financial services in India since they eliminate the need of physical materials such as paper, stamps, etc. Additionally, the efficient and quick nature of digital payments, done without physically visiting a traditional bank. UPI has made it easier for people to make and receive payments, regardless of their location or financial status, allowing for almost instantaneous transfer of funds to the accounts of beneficiaries, irrespective of whether the beneficiary is in another city, state and even country.

Since benefits can be transferred directly to the accounts of beneficiaries, courtesy DBT, digital payments are a lot more transparent now. Leakages and fake receipts, which were a part and parcel of traditional payment, particularly in the context of security benefits by government transfers have seen a significant reduction.[89] Additionally, digital payments have enhanced transparency because they leave a trail, which can be used to track and monitor transactions. This in turn helps prevent frauds and other financial crimes while encouraging the adoption of digital payments for transferring funds.[90]

STANDARDISATION INITIATIVES IN THE DIGITAL PAYMENTS SPACE IN INDIA

Standardisation initiatives in the digital payment ecosystem in India were a direct result of a requirement for interoperability of payment systems. Interoperability can lead to expansion of

87. MeitY, *Digital Payment se Pragati ko Gati: A Compendium on India's Digital Journey*, available at Compendium.pdf (meity.gov.in).
88. IMF, *How India's Central Bank Helped Spur a Digital Payments Boom*, available at How India's Central Bank Helped Spur a Digital Payments Boom, (imf.org).
89. *Id.*
90. Ethoca, *Why Transaction Transparency is the Future of Digital Banking*, available at Why Transaction Transparency is the Future of Digital Banking | Ethoca.

financial services offered, including expanding the possibility of ease in making cross-border payments. Interoperability can reduce costs, empower the end-user and improve the payment systems in India.[91] Different countries with different payment architectures may conflict with the Indian payment system, which further cements the need for interoperability to enable cross-border transactions for digital payments.

With the rise in digital payment ecosystem in the country, certain standardised regulatory and policy initiatives have been implemented with the help of NPCI. One such initiative was the waiver of the fee charged by banks to merchants for accepting digital payments. The waiver and the resultant reduction in transaction costs encouraged merchants to accept digital payments, particularly in rural areas where cash still dominates all transactions.[92]

The Bharat Bill Payment System (**BBPS**) is a tiered structure for the operation of the bill payment system, which was implemented by the RBI to enable a pan India touch point for bill payments. It offers interoperable and accessible bill payment services to customers through a network of agents. BBPS facilitates the collection of monthly, bi-monthly and quarterly bill payments for utility services.[93]

In February 2023, the RBI announced that UPI access has been provided to non-resident Indians with international mobile number linked to their non-resident external account and non-resident ordinary accounts. It was also announced that foreign travellers from G20 countries arriving at select international airports would be provided access to UPI for making merchant payments while they are in India. It is proposed to extend this facility across all other entry points in the country.[94] On February 21, 2023, the Monetary Authority of Singapore and the RBI launched a linkage between Singapore's PayNow and India's UPI to enable participants to send and receive funds in the bank accounts of the two countries on a real-time basis.[95]

India has also made strides towards enabling the facility of Central Bank Digital Currency (**CBDC**), and pilots of CBDC in wholesale and retail segments have been initiated in furtherance of cashless payments.[96]

91. BIS, *Interoperability in payments: for the old and the new?,* available at Interoperability in payments: for the old and the new? (bis.org).
92. MeitY, *Publicizing of MDR Waiver and revised BHIM incentive schemes*, available at MDR Waiver and revised BHIM incentive schemes 26-Apr-2018.pdf (dolr.gov.in).
93. RBI, *Implementation of Bharat Bill Payment Sysrem (BBPS)- Guidelines*, available at BBPS28112014CIRFNL.PDF (rbi.org.in).
94. RBI, *Statement on Developmental and Regulatory Practices*, available at PR16814A6E348407704A39A651308A7930DAAA.PDF (rbi.org.in).
95. Monetary Authority of Singapore, *Launch of Real-time Payments between Singapore and India*, available at Launch of Real-time Payments between Singapore and India (mas.gov.sg).
96. Ministry of Finance, *Central Bank Digital Currency (CBDC) pilot launched by RBI in retail segment has components based on blockchain technology*, available at https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1882883.

08

Cryptocurrency **regulation** and **trends**

Introduction

Cryptocurrency came into picture with the development of distributed ledger or shared ledger and blockchain. Shared ledger is any system where multiple parties maintain a unified record of data across multiple 'nodes'. Blockchains are specialised data structures used in specific distributed ledgers. They rely on cryptography and algorithms to store and transmit data in interconnected blocks, forming a digital chain and ensures the data is immutable and synchronised across the network.

Cryptocurrency refers to decentralised digital currencies that run parallel to fiat currencies, recorded on blockchain. Some of the popular examples of cryptocurrency are Bitcoin and Ethereum.

The 2008 financial crisis led to several innovations in the financial market, including of cryptocurrencies. Launched under the pseudonym Satoshi Nakamoto, Bitcoin is the first digital currency, with a decentralised ledger backed by blockchain.

The development of cryptocurrency, and the steps taken for the same, has been quite rampant in foreign jurisdictions. The regulators in India are, on the other hand, hesitant to fully adopt such a decentralised form of currency. Their concerns revolve around, *inter alia*, (i) potential money laundering; (ii) risks associated with the establishment of a parallel currency in the country; and (iii) the high potential of loss for investors investing in cryptocurrency.

Why Cryptocurrency?

The concept of cryptocurrency was built upon the realisation that banks acting as intermediators for fund transfer can offer several problems with little to no solution. With the rising distrust in banks, followed by 'transaction tracking' and the exorbitant fees charged by them, innovators of cryptocurrency sought freedom from such intermediaries. They aimed to create a private currency with an independent transaction network.

However, they faced a fundamental problem: digital money, which are mere codes, can be easily duplicated. Without the presence of highly regulated third-party entities such as banks, questions arose on how to ensure that the same currency would not be spent more than once. Dubbed as the 'double spending' conundrum, Satoshi Nakamoto sought to find a solution and established the blockchain and, with it, Bitcoin in response.

History of Cryptocurrency: Journey from First Generation Blockchain to the Third Generation Blockchain

Viewed as the first generation of cryptocurrency, Bitcoin aimed to bypass the need for third-party regulated entities such as banks in a fund flow and circumvent centralised controls over finance. However, Bitcoin had several drawbacks — particularly since its use-case was majorly restricted to those individuals who had an in-depth knowledge of the inner-workings of the blockchain system.

Ethereum marked the second generation of blockchains, bringing two ground-breaking concepts that redefined the landscape. It introduced smart contracts which are self-executing programmable contracts, triggered when pre-defined conditions are met. This removed the need for intermediaries, while ensuring 'trustless' transactions. This opened a world of possibilities, laying the foundation for a vibrant digital ecosystem. Ethereum's smart contracts could be used to create decentralized applications and even launch new cryptocurrencies.

While the usage of cryptocurrencies boomed, the early stages of blockchains like Bitcoin and Ethereum choked under user load, slowed down and costed more. Enter the next generation: faster, cheaper, and often considered to be greener. These new blockchains can even interact with each other, unlike their siloed predecessors. This interoperability and improved performance have driven wider adoption of blockchain and with it, cryptocurrency across industries.

Regulatory Developments in Cryptocurrency

i. **The RBI ban on Cryptocurrency**[97]

To protect the Indian financial system from the risks associated with cryptocurrencies, the RBI, on April 2018, banned banks and financial institutions from interacting with crypto exchanges.

ii. **Internet and Mobile Association of India vs The Reserve Bank of India**[98]

The Supreme Court of India overturned the RBI ban on cryptocurrency trading, based on a lack of sufficient justification for the RBI's ban, declaring it legal yet cautionary. While acknowledging the potential benefits of this '*double-edged sword*', involving real-time transactions and financial inclusion, the Supreme Court also recognised its risks: anonymity facilitating crime, cybercrime vulnerabilities, and potential for future restrictions.

iii. **Cryptocurrency Bill, 2021 (Bill)**

The draft Bill takes a comprehensive approach to cryptocurrency regulation, effectively criminalising all forms of engagement with cryptocurrency within India. This includes trading, mining, using it as a financial

97. RBI, *Prohibition on dealing in Virtual Currencies (VCs)*, available at Reserve Bank of India - Notifications (rbi.org.in).
98. Internet and Mobile Association of India v. The Reserve Bank of India, MANU/SC/0264/2020, available at 19230_2018_4_1501_21151_Judgement_04-Mar-2020.pdf (sci.gov.in).

instrument or payment system, and even offering related services. However, the government retains some flexibility through exemptions and the potential introduction of a digital rupee and allows research into the underlying technology to be conducted.

iv. Tax Implications

The Finance Act, 2022 (**Finance Act**), introduced section 194S of the Income Tax Act, 1961 (**IT Act**), mandating that anyone paying consideration for a virtual digital asset (**VDA**) to a resident must deduct tax at the rate of 1%. The responsibility for deducting this tax falls on different parties, depending on the circumstances of the transaction. In over-the-counter deals, for example, the buyer deducts the tax. For exchange traded VDAs, the responsibility lies with the exchange, unless a broker is involved, in which case both may be liable. If the exchange itself owns the VDA, the buyer or broker takes primary responsibility, but the exchange can assume it through a written agreement. For VDA-to-VDA exchanges, the buyer and seller are primarily responsible, but the exchange can take over with a contractual agreement.

The deduction happens at the time of payment or credit, and a threshold of INR 10,000 (INR 50,000 for 'specified persons') applies. If the consideration is in kind, the payer ensures the tax is paid before releasing it. Transactions through exchanges can involve multiple deductions at different stages. The tax deducted must be deposited with the government within specified timeframes, and failure to do so or to furnish required statements will attract penalties.[99]

The Finance Act introduced a 30% tax on income arising from VDA transfers, including cryptocurrencies and non-fungible tokens.[100]

Section 271C of the IT Act punishes non-payment of tax deducted at source on VDAs with a fine equal to the unpaid amount or imprisonment of up to six months. [101]

v. Prevention of Money Laundering

To combat money laundering and fraud, India's Ministry of Finance has brought VDAs like cryptocurrencies under the ambit of the Prevention of Money Laundering Act, 2022 (**PMLA**) through a notification issued on March 7, 2023.[102] This inclusion puts cryptocurrency

99. *Insertion of new section 194S*, available at Insertion of new section 194S (incometaxindia.gov.in).
100. Finance Act 2020, *Amendments at a glance*, available at Circular No. 8/2002, dated 27-08-2002 (incometaxindia.gov.in).
101. Income Tax Act, 1961, available at Tax Laws & Rules > Acts > Income-tax Act, 1961 (incometaxindia.gov.in).
102. Available at: 244184.pdf (egazette.nic.in).

platforms and service providers on par with traditional 'reporting entities' like banks and financial institutions, subjecting them to stricter regulations and KYC compliance norms.

KEY IMPLICATIONS FOR CRYPTOCURRENCY PLATFORMS

i. **Enhanced KYC/ Anti-Money Laundering (AML)**: Cryptocurrency platforms/ exchanges must now verify the identity of both clients and beneficial owners, ensuring due diligence on all transactions exceeding INR 50,000 or involving cross-border transfers.

ii. **Reporting Obligations**: Designated directors and principal officers within VDA service providers will be responsible for reporting suspicious transactions and other prescribed activities to the FIU-IND within the stipulated timeframes.

iii. **Central KYC Records Registry**: VDA service providers must register with the Central KYC Records Registry and file e-copies of KYC records for both clients and beneficial owners after establishing an account relationship.

iv. **Increased Scrutiny**: The ED now has broader powers to investigate potential VDA-related money laundering and seize the assets. Non-compliance with PMLA regulations can lead to hefty penalties.

These regulations mark a significant shift in India's approach towards cryptocurrencies. It also aims to bring greater transparency and accountability to the crypto ecosystem, potentially bolstering trust and investor confidence. However, concerns regarding data privacy and potential misuse of the ED's investigative powers remain.

*G20 charts course for global crypto regulation with International Monetary Fund (**IMF**) - Financial Stability Board (**FSB**) Synthesis Paper*

The G20 welcomed IMF-FSB Synthesis Paper for global crypto regulation, acknowledging specific risks faced by emerging markets. The paper allows flexibility for emerging market and developing economies, like India, to tailor policies based on their unique size, priorities, and financial landscape. All nations are encouraged to assess local needs before acting on crypto assets.[103] The PMLA regulations and KYC requirements represent a major step towards regulating India's burgeoning crypto space. VDA platforms and service providers must adapt their operations to comply with these new norms while continuing to innovate and develop responsible business practices. The success of these regulations will depend on effective implementation, robust data protection measures, and a collaborative approach between regulators and the cryptocurrency industry.

Conclusion

The rise of cryptocurrencies presents India with a complex dilemma: should they be permitted and regulated, or banned outright? The arguments on both sides are compelling and a clear answer remains elusive.

ARGUMENTS FOR REGULATION

Blockchain technology potential: Banning cryptocurrencies could stifle the adoption of promising blockchain technology, which has applications beyond just virtual currencies.

Investor protection: Indian investors already hold cryptocurrencies, and a ban without exit options could cause financial losses.

Limited effectiveness of a ban: Due to their anonymous nature, cryptocurrencies might be difficult to fully control, even with a ban.

KEY IMPLICATIONS FOR CRYPTOCURRENCY PLATFORMS

i. National currency concerns: Unlike advanced economies, India relies heavily on its own currency, the INR. Wide adoption of cryptocurrencies could weaken its stability.

ii. Strategic control: Some fear that private currencies like cryptocurrencies could be used by powerful nations to exert economic control over developing economies like India.

iii. Concentrated ownership: Cryptocurrency is highly concentrated, raising concerns about manipulation.

iv. Regulatory challenges: Cryptocurrencies are global and difficult to define, making traditional financial regulations ineffective.

103. Ministry of Finance, *Regulating crypto assets*, available at AU1040.pdf (sansad.in).

Potential Solutions

i. Gradual regulation: Phased regulations for cryptocurrency may be introduced, allowing controlled adoption of cryptocurrency, while mitigating risks.

ii. The adoption of blockchain technology, independent of cryptocurrencies, may be supported.

iii. Investor education and awareness: Investors may be educated and empowered to make informed decisions about cryptocurrency investments through educational programmes.

iv. Steps to collaborate with other countries may be adopted to develop a global framework for the effective regulating cryptocurrencies.

Ultimately, the decision to permit and regulate cryptocurrencies in India requires careful consideration of both potential benefits and risks. A balanced approach that prioritises national security, financial stability, and investor protection, while not hindering technological innovation could be the key to navigating this complex landscape.

09

Cross border **PAYMENTS**

Introdction

Cross-border payments refer to financial transactions that involve the transfer of funds between individuals or businesses located in different countries. With the global economy becoming increasingly interconnected, the volume and complexity of cross-border payments have grown significantly in recent years. As a result, there is a need for efficient and secure payment systems that can handle these transactions in a seamless manner. They include both wholesale and retail payments, as well as remittances and require the conversion of one currency to another[104].

Over the past few years, India's cross-border remittances experienced a compound annual growth rate (**CAGR**) of 8%, attributed to the increasing global mobility of goods and services, international travel and foreign labour.[105] According to statistics, global retail e-commerce sales reached USD 5.2 trillion in 2021, and this figure is projected to grow by 56% to reach USD 8.1 trillion by 2026. In 2019, online purchases accounted for 17.8% of total retail sales worldwide, a figure expected to rise to 23% by 2025. With the increasing penetration of the internet, smartphone usage and social media downloads, e-commerce presents significant opportunities for businesses to expand their geographical reach, customer base and revenues in new markets.[106]

104. HSBC, *Cross-Border Payments in India*, available at Cross-Border Payments in India | Article – HSBC Business Go.
105. HSBC, *Cross-Border Payments in India*, available at Cross-Border Payments in India | Article – HSBC Business Go.
106. HSBC, *Cross-Border Payments in India*, available at Cross-Border Payments in India | Article – HSBC Business Go.

Foreign exchange transactions in India are regulated under the FEMA. RBI has implemented various measures to enhance the efficiency and security of cross-border transactions, however, challenges still persist particularly in terms of regulatory compliance and security measures. Particularly, compliance with regulations such as KYC norms and AML measures continue to remain a challenge and addressing these will be vital to fostering a secure and compliant digital payment ecosystem in the country.

Framework for Cross-Border Remittances in India

There are various models for cross-border remittances. It mainly happens through channels such as commercial banks, credit unions, post offices, money transfer services, Society for Worldwide Interbank Financial Telecommunication (**SWIFT**) and Rupee Drawing Arrangements.

CORRESPONDENCE BANK/ SWIFT

Banks and other financial institutions such as banks, securities dealers, asset management companies, clearing houses, depositories and exchanges extensively utilise the SWIFT network for sending and receiving international payments. This network encompasses over 11,000 financial institutions spanning more than 200 countries. In the case of Indian banks, they establish partnerships with foreign correspondent banks and establish a NOSTRO account. The transfer request is then processed by both the correspondent and the Indian bank through the SWIFT messaging infrastructure. The duration of these transactions typically ranges from one to five days, and the charges incurred depend on the amount and the country involved (with some Indian banks implementing a flat fee structure starting at INR 500). Although SWIFT has been widely adopted by institutions and individuals worldwide for cross-border payments, concerns regarding the speed of remittance, particularly with the emergence of faster payment rails, have arisen.[107]

MONEY TRANSFER SERVICE SCHEME

MTSS refers to a strategic collaboration between international principals and Indian agents, wherein funds are distributed to recipients or beneficiaries in India at prevailing exchange rates. The transfer process typically takes between one to three days, with fees ranging from 0.3% to 5% of the transaction value. It is important to note that this service is exclusively applicable for inward personal remittances, with a maximum transaction limit of USD 2,500 and a maximum of 30 transactions per beneficiary per year. Notably, remittances related to trade activities, such as those intended for property purchases, are not permitted within the framework of this arrangement.[108]

RUPEE DRAWING AGREEMENTS

Indian banks have established collaborations with international exchange houses to offer a more expedited remittance service to Indian individuals living abroad. AD-1 banks have formed partnerships with non-resident exchange houses in countries that adhere to the FATF regulations, allowing them to maintain vostro accounts. Through these exchange houses, customers can conveniently transfer funds to India, with the money being promptly credited to the beneficiary account held by the bank that maintains the rupee drawing agreements or RDAs. It is important to note that the RDA solely facilitates inward remittances, and there are certain limitations, either in terms of value or volume, imposed on individual transactions.

POSTAL CHANNELS

The International Financial System (**IFS**) is a software/ platform developed by the Universal Postal Union (**UPU**) to facilitate the transfer of funds both into and out of partner countries through the postal channel. These transfers are carried out using electronic data interchange (**EDI**) messages, which are sent from India Post's central server to the IFS national server and then to the postal operator in the destination country via the UPU system. This service is available through the post office in India and is operated by the La Poste Group in France and the IFS in the UAE, utilising international money orders. The IFS offers two main services, namely normal and urgent, with delivery times ranging from two to five days. It is important to note that certain commercial transactions, such as investments, loans, donations to charitable institutions, trusts, or NRE accounts, are not permitted.[109]

107. PwC, *The evolving landscape of cross-border payments*, available at The evolving landscape of cross-border payments (pwc.in).
108. *Ibid.*
109. *Ibid.*

Recent developments in cross-border payments

There are various developments that are seen both at a local and global scale.

G20 ROADMAP

The roadmap for enhancing cross-border payments was endorsed by G20 leaders in 2020, setting out the specific goals of achieving more affordable, efficient, transparent and inclusive cross-border payments. The concept of multilateral platforms was also discussed.

A multilateral platform refers to a payment system that facilitates cross-border payments and involves multiple jurisdictions. Unlike domestic payment systems that do not allow PSPs from foreign jurisdictions to participate, multilateral platforms are designed to enable entities from different jurisdictions to participate and offer cross-border payment services to their customers. This means that customers of one participating PSP in one jurisdiction can make payments to customers of another participating PSP in a different jurisdiction. Similar to domestic payment systems, multilateral platforms may have a tiered participation structure where some firms, indirect participants or third parties, can utilise the platform's central payment, clearing, settlement, or recording facilities through direct participants, without establishing a contractual relationship with the platform. These platforms are typically governed by stakeholders from multiple jurisdictions and overseen by various public authorities through cooperative oversight arrangements. They can serve as alternatives to or coexist with traditional cross-border payment arrangements such as correspondent banking and closed loop systems.

In October 2022, the FSB released a prioritisation plan and engagement model to advance the roadmap. This plan acknowledged the necessity of transitioning towards implementing practical projects that would enhance cross-border payment arrangements and achieve quantitative targets by the designated deadline of 2027. Based on the analyses conducted thus far and the feedback received from stakeholders, the FSB, in collaboration with the CPMI and other relevant organisations, identified three interconnected themes to guide and concentrate the next phase of the roadmap. These themes include payment system interoperability and extension, legal, regulatory and supervisory frameworks, as well as cross-border data exchange and message standards.[110]

110. FSB, *G20 Roadmap for Enhancing Cross-border Payments: Priority actions for achieving the G20 targets*, available at G20 Roadmap for Enhancing Cross-border Payments: Priority actions for achieving the G20 targets - Financial Stability Board (fsb.org).

UPI DEVELOPMENTS BETWEEN INDIA AND FOREIGN COUNTRIES

RBI has recently[111] permitted foreign nationals and non-resident Indians (**NRIs**) visiting India to utilise UPI for making payments during their stay in the country.[112]

India is making significant progress in expanding its digital payment systems, such as RuPay and UPI, on a global scale. Recently, several countries, including France, Mauritius, UAE, Saudi Arabia, Bahrain, Singapore, Maldives, Bhutan and Oman, have embraced these Indian payment systems. Europe is one of the latest regions to accept India's payment systems. This development allows Indians to make payments through UPI and other platforms in these countries. During the G20 digital economy working group meeting in Lucknow, Union Minister Ashwini Vaishnaw announced on February 13, 2023, that India has signed MoUs with 13 countries interested in adopting the UPI interface for digital payments.

These international partnerships have been facilitated by NIPL, a subsidiary of NPCI, which is actively collaborating with various countries to establish a widespread acceptance network for RuPay and UPI. This network will enable Indian travellers to make payments using these channels in their destination countries. NIPL was established in April 2020 with the sole purpose of deploying RuPay and UPI outside India.

Furthermore, as part of its efforts to expand the digital economy, India has announced UPI access for NRIs in 10 foreign countries. This access will be available to NRIs whose Indian bank accounts are linked to foreign mobile numbers. Additionally, foreign travellers arriving in India will also have access to UPI services, initially at select international airports.[113] There are also various ongoing discussions with countries such as Russia, Thailand and other G20 countries.

SINGAPORE

PayNow SG is a service in Singapore that facilitates peer-to-peer funds transfer for customers of both Banks and Non-Bank Financial Institutions (**NFIs**). It offers an improved funds transfer process, allowing customers to send and receive Singapore dollars instantly and is available 24/7, using only their mobile number or VPA. This eliminates the need for senders to have knowledge of the recipient's bank account or e-wallet provider and account number when using PayNow Singapore for money transfers. The linkage offers a convenient and secure method for customers of participating Banks and NFIs to transfer funds across borders. For instance, an Indian UPI user, who is a part of the linkage, can easily send money to a user of Singapore's PayNow, who is also a part of the UPI-PayNow linkage and *vice-versa*. There are multiple participants in this linkage such as Axis Bank, Indian Bank, State Bank of India, DBS Bank, Singapore, and Liquid Group, etc.[114]

FRANCE

During Prime Minister Narendra Modi's state visit on July 13, 2023, India and France entered into an agreement that permits the use of UPI for transactions in the latter country. This development will facilitate Indian tourists to conduct their financial transactions in rupee by utilising local QR codes or UPI IDs and will no longer have to necessarily carry foreign currency.

UAE

The RBI and the Central Bank of UAE (**CBUAE**) have recently entered into two agreements in Abu Dhabi. These agreements aim to establish a comprehensive framework that facilitate cross-border transactions in local currencies and enable the interlinking of payment and messaging systems between the two countries. The MoUs have been established with the objective of creating a structured framework to facilitate the utilisation of domestic currencies, specifically the Indian rupee (**INR**) and the UAE dirham (**AED**), for conducting cross-border transactions. Additionally, the MoUs aim to foster collaboration between the two parties to integrate their respective payment and messaging systems. The utilisation of local currencies would enhance the efficiency of transaction costs and settlement time for various transactions, including remittances from Indian individuals residing in the United Arab Emirates (**UAE**). In relation to the commitment made on 'Payments and

111. RBI, I*ssuance of PPIs to Foreign Nationals / Non-Resident Indians (NRIs) visiting India*, available at Reserve Bank of India - Notifications (rbi.org.in)
112. PIB, *Cross Border Real-Time Money Transfers*, available at Press Information Bureau (pib.gov.in).
113. *India's UPI Interface to Become Accessible to More Users*, available at Unified Payments Interface (UPI) from India: Tracking Global Accep tance (india-briefing.com).
114. NPCI, *UPI PayNow*, available at UPI PayNow (npci.org.in).

Messaging Systems', the RBI has stated that the two central banks have agreed to collaborate to connect India's UPI with UAE's Instant Payment Platform (**IPP**). Additionally, they will establish links between their respective Card Switches, namely the RuPay switch and UAESWITCH.[115]

Conclusion

The field of cross-border payments is undergoing continuous advancements, aimed at reducing time and expenses involved, as well as simplifying the overall process. These innovations have the potential to facilitate growth of local businesses and expand their customer base at a minimal cost. Additionally, the local tourism industry will also benefit from these developments. Countries are making significant progress in this area, as fintech innovations are rapidly erasing boundaries between intermediaries, markets and new service providers. While barriers to entry are changing, with some being lowered and others being raised, the emergence of large closed networks may limit competition. Nevertheless, trust remains a crucial factor in this domain. Furthermore, technology holds the promise of enhancing cross-border payments by offering improved and more affordable services, as well as reducing the costs associated with compliance to anti-money laundering and counter-terrorism financing regulations.[116]

115. Economic Times, *India's UPI to be interlinked with UAE's IPP; rupee, dirham to be promoted for cross-border transactions*, available at India's UPI UAE's IPP: India's UPI to be interlinked with UAE's IPP; rupee, dirham to be promoted for cross-border transactions, ET Government (indiatimes.com).
116. IMF, *Fintech and Cross-Border Payments*, available at Fintech and Cross-Border Payments (imf.org).

10

EMERGING **TRENDS** AND **TECHNOLOGIES**

Blockchain and Distributed Ledger Technology

Distributed Ledger Technology (**DLT**) is the backbone of the current cryptocurrency revolution, upon which further innovations such as CBDC are built. When data moves across systems through networks such as the internet, its movement is tracked through a central ledger. There is a chance that data can be changed as it is accessible to many users through such movement. A distributed ledger uses independent computers with own electronic ledgers. These independently record, share, and synchronise transactions.[117] When every node on the network is in agreement about the validity of the information, the transaction or data flow would be finalised and encrypted. DLT allows information to be stored in a decentralised manner across all the systems that it moves through. To verify such data, techniques such as encryption are used. This information is stored securely in a way that is accessible only through cryptographic signatures and rules written into the network code.[118] This information could be of any value, such as a record of asset ownership in the form of money, title over land, personal data etc.

117. World Bank, *Distributed Ledger Technology (DLT) and Blockchain, 2017*. Available at World Bank Document.
118. *Id.*

DLT is the baseline of a "blockchain". Since each block contains information about the previous block, it forms a chain which cannot be altered easily. For such information to be attacked successfully, every copy stored at every node would have to be attacked since the data is private and decentralised, making it resilient in its cybersecurity performance. DLT has caused revolutionised how different industries process their data, in areas ranging from supply chain management and cybersecurity. In the financial and legal domain, DLT can be used for entering into smart contracts and recording transactions, among other things. The most popular usage of blockchain DLT in finance has undoubtedly been cryptocurrency, most popularly Bitcoin.

Smart-contracts offers automation and accuracy, allowing for automatic execution of documents the moment certain pre-agreed conditions are met. For instance, the automatic release of claim funds in an insurance contract. Since every ledger on every node has the same copy of information, any change has to be made across every node, ensuring accuracy across all systems. Thus, there is a proper audit trail for every transaction.[119]

The drawbacks that bitcoin has faced in its usage of DLT have been mainly the high cost of operations, since the function of validating transactions at every step requires a large amount of processing power.[120] However, the cost of centralisation is also done away with, and the cost factor would need to be a weighed trade-off.[121] Further, having records of all transactions publicly available comes with its own risks and challenges.[122]

Central Bank Digital Currency

CBDC refers to the issuance of currency notes in a digital form by a central bank. What makes CBDC different from digitally held money is that the CBDC would be a liability of the central bank rather than the commercial bank. The idea came in the wake of rising private digital assets such as cryptocurrencies, which function outside the purview of monetary regulation, affecting financial stability at a macro level.

RBI defines CBDC as "*the legal tender issued by a central bank in a digital form*" putting it on par with sovereign currency and exchangeable with fiat currency.[123] This means that it would be currency in itself and not a digital token backed by an underlying asset or currency.[124] The technology that would be used for such a currency is similar to that of cryptocurrencies, which use a combination of distributed ledger technologies for decentralised peer-to-peer payments, albeit with centralised control vested in the country's central bank.

To better understand CBDC's place in the monetary system, the concept of a "*money flower*" is used.[125] This refers to the combination of properties of a currency, at whose intersection the CBDC lies. These are – issuer, form, accessibility, and technology. Central banks of countries have piloted diverse models for their CBDCs, depending on available digital infrastructure, scalability, and ease of management. These models would fall within the money flower and would be optimised for the country's needs.

119. *Id.*
120. Bank of International Settlements, *What is Distributed Ledger Technology, 2017*. Available at What is distributed ledger technology? (bis.org).
121. *Supra*, note 1.
122. *Supra*, note 4.
123. RBI, *Concept Note on Central Bank Digital Currency*, 7th October 2022. Available at Reserve Bank of India - Reports (rbi.org.in).
124. Federal Reserve, *Money and Payments: The US Dollar in the Age of Digital Transformation.* Available at Money and Payments: The U.S. Dollar in the Age of Digital Transformation (federalreserve.gov).
125. Bank of International Settlements, *Central Bank Digital Currencies*. Available at *Central bank digital currencies (bis.org).

For instance, China's e-CNY model seeks the help of private-sector banks for the maintaining and distribution of digital currency accounts.[126]

The RBI in its concept note on CBDCs has identified the key design considerations to be factored in an Indian CBDC roll out such as form factor, type (wholesale or retail), model of issuance and degree of anonymity.[127] Basis these, the RBI has considered the two types of CBDCs that can be issued – Retail CBDC (**CBDC-R**) and Wholesale CBDC (**CBDC-W**). CBDC-R is aimed for use by the private sector including retail consumers and businesses, for retail transactions with real-time settlements akin to physical cash. CBDC-W on the other hand would be used by financial institutions, mainly for the settlement of interbank transfers. This could be advantageous in terms of operational costs, use of collateral and liquidity, while also improving risk management. In case this is combined with the direct participation of non-banks in the settlement process, it could encourage better authentication, record-keeping, data management and risk management.[128] For instance, if payments or cash legs of securities transactions are settled in CBDC, as opposed to facilities hosted by commercial banks, this could reduce counterparty credit and liquidity risk in the financial system.[129]

The idea of a CBDC is thus a question of making policy trade-offs in a way that would not disrupt the current system while easing customers and intermediaries into the transition. Adoption of CBDCs would require a legal framework that defines the role of CBDCs while proactively addressing money laundering, cybersecurity and data protection related concerns.

Open Banking and APIs.

"Open Banking" refers to the system that allows third-party providers to use an individual's financial information that is usually held by banks.[130] These providers use information to formulate new products and services, using technology called "Application Programming Interfaces" (**API**). Countries such as the UK and EU, considered pioneers in the area have come up with their own framework for open banking, part of which is possible because of the robust data protection regulations in place in the said countries. In the case of the UK, the need for open banking was the result of the lack of an even-playing field when it came to banks[131]. While established banks faced less difficulties in on-boarding customers, newer banks found it difficult to grow. Creating an open banking ecosystem was seen as a solution, which would allow banks to tie-up with technology service providers to provide technology-oriented financial solutions to their customers.[132]

Open banking is a regulatory requirement in the UK, through a directive called the Payment Service Directive 2 (**PSD2**), which is also applicable throughout the European Economic Area (**EEA**). PSD2 regulates third party PSP and their relationship with PSPs with whom customers have accounts. In the UK for instance, nine of its biggest banks, which includes HSBC, Barclays and RBS have to mandatorily[133] release data such as details of banking products and make them available to other authorised organisations.[134] The information can be used by the third party to develop products. However, it is on the customer to give explicit approval. Thus, system brings in an intermediary into the banking relationship, which has traditionally been two-way at a rudimentary level while also making the customer the primary custodian of their financial data.

When compared to the open banking design and API applications of the UK and the EU, which have been regulated and mandate-driven, India has followed a mixed approach, which has involved market-driven forces as well as regulated forces.[135] For instance, the standardised API of the UPI was supported by the RBI which invited players to use this publicly developed infrastructure. RBI helped banks to agree on a common authentication system and allowed third-party support for certain technical aspects and customer on-boarding. Basis this, banks integrated the UPI layer into their larger service-offering mobile applications. Newer, fintech entrants started off with being UPI-specific payment apps to then diversify into

126. *Supra*, note 9.
127. *Supra*, note 7.
128. *Supra*, note 9.
129. *Id.*
130. World Economic Forum, *What Open Banking Needs to Become the Future of Banking*. Available at What Open Banking needs to become the future of banking | World Economic Forum (weforum.org)
131. Open Banking UK, *About Open Banking Limited*. Available at About Open Banking Limited - Open Banking
132. *Id.*
133. UK Finance, *UK Finance FAQs - Frequently Asked Questions on Payment Services Directive 2 and Open Banking*. Available at Frequently-Asked-Questions-on-PSD2-and-Open-Banking.pdf (ukfinance.org.uk)
134. Wired UK, *What is Open Banking and PSD2?*. Available at What is Open Banking and PSD2? WIRED explains | WIRED UK
135. *Id.*

offering allied services. This creation of a competitive ecosystem among banks and non-banks at a large scale is arguably unique to the Indian banking system.

Biometrics and Authentication Methods

The rollout of Aadhaar was instrumental in creating an e-KYC system which eased access to banking for millions of Indians. Aadhaar was launched in 2010 as an identification system, to which all residents of India are entitled. Individuals have to provide certain biometric information at the time of enrolment, such as a photograph, fingerprints and iris scans, along with certain basic data – name, address, gender and date of birth. Basis this information, a unique 12-digit number would be assigned to the individual. What separated this identification from other kinds – PAN, driver's license etc. – was its interoperable nature.

Further, the RBI regulatory sandbox, which allows the live testing of new products in controlled conditions, has also seen private banks tie-up with biometric service providers to test 'on tap' retail payments using biometric data. This could prove useful for adopting digital payments in areas with low network connectivity, where building on the Aadhar API, private players would create a 'biometric token' which could be used for authentication.[136] Certain financial institutions in India have also been allowed to use the Aadhaar biometric ID for AML precautions,[137] another move seen in the expansion of such biometric usage in the banking sector. This could potentially include using facial recognition and iris scanning for individuals whose bank deposits and withdrawals exceeding INR 20 lakh in a financial year.[138]

While the speed of expansion of authentication methods has been breakneck, it also has to be seen from the perspective of data privacy. Especially in the wake of India's new DPDPA. It remains to be seen how the implementation of the DPDPA would affect the scope of application of the Aadhar database and future developments.

Artificial Intelligence (AI) and Machine Learning (ML)

The terms AI and ML are used in common parlance with much ease, often with a lack of clarity on what they mean. Simply put, AI refers to the process of problem-solving using computer science, through massive datasets that are fed to it. ML is a part of AI, which enables the computers to improve decision making and predictions through analyses. AI has found usage in almost every level of every sector, reducing the need for human involvement, and making processes easier, faster and accurate.

For instance, AI and ML could be used for accurate fraud detection. In the case of credit card frauds, programmes could be developed and employed to be able to differentiate usual behaviour from unusual behaviour – through data and analytics. A key use case is also credit scoring and loans issuing. Usually, the process involves a large amount of data as this would require the borrower's personal information, payment history, credit history and tax payments – among other things. Employing AI could ease this process and predictions regarding borrowings could be more accurate. On the front-end, another common usage seen across digital banking platforms is the introduction of virtual chatbots that assist with common bank and payment-related queries that customers might have.[139]

136. The Economic Times, *HDFC Bank, Precision Biometric to Test Applications under RBI's Sandbox Scheme*. Available at rbi: HDFC Bank, Precision Biometric to test applications under RBI's sandbox scheme - The Economic Times (indiatimes.com).
137. Biometric Update, *India Okays 22 Financial Entities to Perform Aadhaar Biometric Authentication, 2023*. Available at India okays 22 financial entities to perform Aadhaar biometric authentication | Biometric Update.
138. Inc42, *Government Allows Banks to Use Facial Recognition, Iris Scanning for some Transactions*. Available at Govt Allows Banks To Use Facial Recognition, Iris Scanning For Some Transactions (inc42.com).
139. India AI, *AI is Changing the Face of Digital Banking in India, July 2023*. Available at AI is changing the face of digital banking in India (indiaai.gov.in).


BLOCK CHAIN

11

DIGITAL PAYMENT **SYSTEMS** AND **REGULATIONS** IN **IFSC**

Introduction to International Financial Services Centre

The International Financial Services Centre (**IFSC**) is India's first financial services centre and is situated in Gujarat International Finance Tec-City (**GIFT City**), which is a notified Special Economic Zone (**SEZ**). The IFSC has been established with the objective of onshoring financial services and products, which were otherwise being exported to business friendly and established jurisdictions outside India. The IFSC aims to achieve its objective by providing a conducive and business friendly legal regime at par with other attractive (investment) jurisdictions. Thus, the International Financial Services Centre Authority (**IFSCA**) has been envisioned as a 'one stop or super regulator', and therefore empowered to develop and regulate financial products, services and financial institutions in the IFSC. The IFSCA has assumed the power of domestic financial regulators like the Reserve Bank of India, the Securities and Exchange Board of India, Pension Fund Regulatory and Development Authority of India and Insurance Regulatory and Development Authority of India in relation to financial products, financial services and financial institutions set up in the IFSC, GIFT City.

Applicable regulatory regime

Broadly, the regulatory umbrella in IFSC, GIFT City, comprises the Special Economic Zones Act, 2005 (**SEZ Act**), International Financial Services Centres Authority Act, 2019 (**IFSCA Act**) and the rules, regulations, circulars, notifications, guidelines, etc., as notified thereunder, the Companies Act, 2013 (with special relaxation for IFSC Units), IT Act, and Foreign Exchange Management (International Financial Services Centres) Regulations, 2015 (**FEMA (IFSC) Regulations**). In the coming months, the IFSCA shall be rolling out new payment regulations to ensure instant payment settlements.[140]

The IFSC in GIFT City was set up under Section 18(1) of the SEZ Act, which provided that the Central Government may approve the setting up of an IFSC in an SEZ and prescribe the minimum requirements for setting it up and operating it. As per Regulation 3 of the FEMA (**IFSC**) Regulations, "*any financial institution or branch of a financial institution set up in the IFSC and permitted/ recognised as such by the Government of India or a Regulatory Authority shall be treated as a person resident outside India.*" Thus, an entity set up in the IFSC will be treated as a non-resident from a foreign exchange perspective.

FORM OF SETUP

Depending on the nature of financial services undertaken by an IFSC entity or the kind of financial products offered, such financial institutions can be set up either as a branch or limited liability partnership under (Indian) Limited Liability Partnership Act, 2008, or partnership under (Indian) Partnership Act, 1932, or trust or a company or a subsidiary of a company under the (Indian) Companies Act, 2013, or in any other manner as maybe prescribed by the IFSCA.

Regulatory framework concerning payment systems at IFSC:

While in mainland India, payment services and payment systems are governed by the PSS Act, and the concerned regulator is the Reserve Bank of India; for IFSC, the regulatory powers under the PSS Act are assumed by the IFSCA under the IFSCA Act[141]. Under the IFSCA Act, the IFSCA's authority extends to licensing, authorising, regulating, supervising and overseeing these systems to ensure compliance with the relevant laws.

Estimates suggest that the digital payments market is expected to reach USD 1 trillion by 2023 and digital lending may reach USD 100 billion by 2023.[142] Thus, it was the need of the hour for the IFSCA to develop a comprehensive set of regulations concerning payments and payments systems in the IFSC. As of today, the IFSCA does not have any specific set of regulations concerning payments and payment systems, however, on October 10, 2023, the IFSCA released a Consultation paper for comments on the proposed IFSCA Payment Services Regulations, 20XX[143] (**Draft Regulations**).

Key takeaways from the Draft Regulations:

i. In contrast with the previous draft regulations, wherein 'payment systems' was defined as a "specialised infrastructure used for interbank money transfers", the new proposed regulations assign the same meaning to 'payment systems' as defined under the Payment Systems and Settlements Act. It is argued that the definition of 'payment systems' within the PSS Act is broad in nature and provides only an indicative list that may classify as 'payment systems'. This broad definition not only lacks clarity, but also is not in line with other jurisdictions such as Singapore and the United Kingdom. Thus, for the sake of clarity, it suggested that the definition of 'payment systems' provided under the previous set of draft regulations, dated June 13, 2023, must be incorporated. As the same, while providing brevity, will also impart much clarity on the scope of what constitutes as 'digital payment service'.

ii. Interestingly, the new proposed regulations contain a definition of 'digital payment tokens'. Digital payment tokens are defined as a digital representation, which are expressed as a

140. The Economic Times, *IFSCA to come out with norms to help regulated entities settle payments instantly: Chairman*. Available at IFSCA to come out with norms to help regulated entities settle payments instantly: Chairman - The Economic Times (indiatimes.com).
141. Sections 12,13 and 33 of IFSCA Act, 2019.
142. IFSCA, *International Financial Services Centre*, available at IFSCA Brochure-v4-lv.
143. IFSCA, *Consultation paper on proposed IFSCA(Payment Services) Regulations, 2023*, available at Consultation paper on the proposed IFSCA (Payment Services) Regulations, 20XX.

unit but not denominated or pegged to any currency, act as a 'medium of exchange' with acceptance from the 'general public' for payment of goods and services and can be traded or stored electronically. Even a bare perusal of the definition reveals that 'Digital Payment Tokens' are essentially cryptocurrencies. Cryptocurrencies are not recognised as legal tender in mainland India. However, with the inclusion of this definition in the proposed regulations, it would be interesting to see whether cryptocurrencies or virtual currencies would be recognised as legal tender within the IFSC jurisdiction. If the answer to this is in the affirmative, then it may prove to be a watershed moment for FinTech entities operating out of IFSC. FinTech entities could leverage digital payment systems to set up platforms that allow storing and trading in cryptocurrencies.

iii. Fit and proper requirements for 'Key Managerial Personnel' have also been included, along with the duty to document 'governance arrangement'. The governance arrangement document must contain at least information pertaining to: (a) the role and composition of the Board; (b) senior management structure and procedure for their appointment; (c) reporting lines between the management and the Board; (d) ownership structure; (d) internal governance policy and design of risk management and internal controls. One might argue that disclosure requirements to such extent, especially in a financial services centre, might hamper ease of doing business. However, on the flip side, such disclosure requirements may be necessary, especially from a financial services sector perspective, as digital payment systems in an offshore jurisdiction such as IFSC, can be easily utilised for money laundering and such disclosure requirements help the regulator to ensure transparency and complete knowhow about the regulated entity and its business.

iv. Another noteworthy thing is that the proposed regulations now allow payment service providers to provide escrow services. Escrow services have been defined as a service under which a payment service provider can hold an asset or money, in pursuance of an agreement between two parties. Escrow services are generally provided by banks, and banks can only operate post issuance of a separate banking license. If the proposed regulations are eventually notified, then the scope of escrow services would expand considerably in IFSC, as not only banks but multiple entities operating as digital payment service providers would be able to provide escrow services. Availability of escrow services facilitates the flow of capital by reducing transaction risks.

v. A special distinction is also created wherein payment service providers having net worth of USD 2 million shall be classified as 'significant payment service providers'. Such significant payment service providers must achieve a net worth of USD 4 million by the end of the third financial year. They must also ensure that post receiving funds from a payment service user, they obtain either an undertaking or a guarantee from a 'safeguarding institution' to be fully liable to the customer for applicable funds or must deposit the applicable funds with such institution. A safeguarding institution could be either a IFSC Banking Unit or a IFSC Banking Company.

vi. In contrast to the PSS Act, the draft regulations propose a risk management framework, mandating payment service providers to put in place a management framework consisting risk management policies, procedures and systems that enable it to assess the risks that arise as a result of providing payment services. Further, payment service providers shall comply with the IFSCA (Anti Money Laundering, Counter Terrorist Financing and Know Your Customer) Guidelines, 2022, and other provisions of PMLA and rules thereunder, and shall also distinguish their applicable funds from other type of funds it intends to hold and submit financial returns, furnish financial statements.

Pilot projects related to payments & settlement at IFSCA:

FINACLE BY INFOSYS

In August 2022, Infosys had launched 'Finacle'[144] under the IFSCA's regulatory sandbox. Finacle assists banks, corporates, and businesses such as shipping companies, insurers, customs agencies to directly connect on a unified distribution network (blockchain), enabling inter-organisation automation

144. Edge Verve, *Infosys Finacle inducted to IFSCA regulatory sandbox to power blockchain-based trade finance*, available at Infosys Finacle Inducted to IFSCA Regulatory Sandbox to Power Blockchain-Based Trade Finance (edgeverve.com).

of trade finance processes. This is intended to eliminate friction from the trade finance value chain by connecting the banking units at IFSC, GIFT City, and their clients on a unified distributed platform, which will ensure reduction in transaction time from a week to hours, leading to significant cost cutting and enabling trade expansion and growth.

The regulatory sandbox under the Framework for Fintech Entity in IFSC[145] issued by the IFSCA allows germination of such innovative payment mechanisms. Any eligible applicant that wishes to use innovative technology for delivery of financial products or services shall seek permission from IFSCA. Upon successful acceptance, the applicant can utilise its technology on a test basis on a limited set of customers, without regulatory oversight. This IFSCA initiative is commendable as it provides great ground for innovation to FinTech entities, while working in the real customer space. Thus, requirement of a business friendly yet strong set of regulations governing the payment services and payment systems space in the IFSC is the need of the hour.

ONYX BY JPMORGAN

In June 2023, JPMorgan released a real time interbank US dollar settlement pilot project in GIFT IFSC, via its blockchain platform – Onyx[146]. Onyx operates on a 24x7 settlement network basis and leading banks such as Axis Bank, HDFC Bank, ICICI Bank, IndusInd Bank and YES Bank have already joined the blockchain platform, facilitating easy and real time settlement of transactions in the IFSC, in which transactions can be only undertaken in a freely convertible foreign currency such as the US Dollar. Earlier, all conventional foreign currency and fund transfers were routed by debiting and crediting into the overseas nostro accounts of Indian banks. Under Onyx, the banking units in IFSC will open a nostro account with JPMorgan in the IFSC itself and the Indian rupee-dollar clearing and settlement would happen in real time. Onyx will not only increase the efficiency and speed of cross-border payments by leveraging its blockchain technology, but also help in transparency and security in real time, as all transactions would be recorded on the unified blockchain technology.

To make the system more holistic, it is suggested that this platform be used for settlement of securities, cross-currency transactions and given that bullion trading has already commenced in the IFSC, it could also be utilised for bullion futures transactions.

Importance of Cybersecurity in IFSC

Given the critical nature of payments and settlement systems, IFSCA needs to place strong emphasis on cybersecurity. As the world moves towards globalization, with increase in cross-border transactions, it becomes imperative that IFSCA as a regulator mandate implementation of robust cybersecurity measures to protect against threats and ensure confidentiality and integrity of transaction data. Accordingly, IFSCA has set up an advisory committee on cybersecurity measures in IFSC.

Way forward

While we await the final version of the Draft Regulations, in order to make IFSC a truly 'international' and 'global' financial hub, IFSCA may consider collaborating with other international financial centres and international bodies to facilitate seamless cross-border transactions while ensuring compliance with international standards and regulations.

The Draft Regulations are a step in the right direction. The IFSCA's regulatory regime, coupled with global best practices and standards, with a touch of business-friendly environment will greatly contribute to the growth and stability of the IFSC, and cement its position in the global payments' ecosystem.

145. IFSCA, Framework for FinTech Entity in the International Financial Services Centres (IFSCs), available here.
146. The Economic Times, *JPMorgan starts real-time USD settlement pilot in GIFT City,* available at JPMorgan: JPMorgan starts real-time USD settlement pilot in GIFT City - The Economic Times (indiatimes.com).


Credit Card
1234 5678 9012 3456
NAME SURNAME
Credit Card
1234 5678 9012
NAME SURNAME
Credit Card
5678 9012 3456
SURNAME
UNTIL END
45 / 67
Credit Card

12

Consumer **Protection** and Dispute **Resolution**

Introduction

In India, consumer protection and dispute resolution are governed by the Consumer Protection Act of 1986 (**COPRA 1986**) and the Consumer Protection Act of 2019 (**COPRA 2019**). In 1988, the National Consumer Disputes Redressal Commission (**NCDRC**), was set up under the COPRA 1986. A quasi-judicial commission, NCDRC is head quartered at New Delhi, and is headed by a sitting or retired judge of the Supreme Court of India.[147] The ambit of jurisdiction of NCDRC includes:

- complaint valued more than INR 2,00,00,000; and
- appellate and revisional jurisdiction from the orders of the state commissions or the district fora.[148]

147. National Consumer Disputes Redressal Commission, available at (ncdrc.nic.in).
148. *Id.*

ADR mechanism in consumer matters

COPRA 19 lays great emphasis on mediation.[149] The Government of India's Ministry of Consumer Affairs, Food, and Public Distribution has made it possible to resolve consumer complaints quickly and affordably through mediation.[150] Such mediation process is completely consumer-friendly, and the amount paid to the court is reimbursed to the parties once a settlement is reached.[151]

It must be noted that COPRA 1986 was aimed at protecting buyers' interests and offering smart and straightforward settlement of disputes.[152] The recent development to the consumer mediation under the Act was a result of the Union government notifying the Consumer Protection (Mediation) Rules, 2020 on July 15, 2020[153].

Rights and responsibilities of payment system users

In India, consumer prote The rights and responsibilities of payment system users are governed by applicable laws and regulations.

In this regard, the PSS Act provides for the regulation and supervision of payment systems in India and designates the RBI as the authority for that purpose and all related matters.[154]

The payment system comprises of PSPs and payment system users/customers. The customers of PSPs include individuals, businesses, government, or non-governmental organisations, who use it to meet their financial requirements. Their role and responsibilities encompass provision of feedback and input to PSPs (i.e. entities such as banks, mobile money operators, fintech companies, and card networks offering payment services), payment system operators (i.e. entities that provide the infrastructure and services that enable the clearing and settlement of payment transactions among PSPs), and payment system regulators (i.e. entities responsible for overseeing and regulating the payment system and its participants, such as the RBI and other financial regulators) and other stakeholders on their expectations, aspirations and experiences of interoperable payment services.[155]

Ombudsman scheme for digital transactions

The RBI launched the Ombudsman Scheme for Digital Transactions (**OSDT**) in 2019 in exercise of its power under Section 18 of the PSS Act.

Under the OSDT, the term 'digital transaction' has been defined as follows:

"a payment transaction in a seamless system effected without the need for cash at least in one of the two legs, if not in both. This includes transactions made through digital / electronic modes wherein both the originator and the beneficiary use digital / electronic medium to send or receive money."

With the promulgation of the OSDT, the RBI took under its ambit, the operations of digital transaction system participants and reserved the right to offer redressal to customers and penalise defaulters.[157] Under the OSDT, the RBI may appoint one or more officers as Chief General Managers or General Managers to be known as Ombudsman for Digital Transactions (**Ombudsman**) and their role would comprise overseeing the application of the provisions under the OSDT. The said appointments shall not exceed a maximum period of three years at a time.

149. Mondaq, *India: Mediation: A Resolution To Complaints Under The Consumer Protection Act, 2019*, available at Mediation: A Resolution To Complaints Under The Consumer Protection Act, 2019 - Dodd-Frank, Consumer Protection Act – India, (mondaq.com).
150. Ministry of Consumer Affairs, *Consumer Handbook on Mediation (FAQ)*, available at Consumer Handbook on Mediation book.cdr (consumeraffairs.nic.in).
151. JLRJS, *Role of Mediation in Consumer Protection in India*, available at Role of Mediation in Consumer Protection in India, JLRJS.
152. VIA Mediation Centre, *Alternative Dispute Resolution in Consumer Disputes*, available at Alternative Dispute Resolution in Consumer Disputes, VIA Mediation Centre.
153. Ministry of Consumer Affairs, *Notification by NCDRC*, available at Notification F. No. A-105/MR/NCDRC/2020, Department of Consumer Affairs, Ministry of Consumer Affairs, Food and Public Distribution, Government of India, published on 24th July, 2020.
154. RBI, *FAQs on Payment and Settlement Systems Act, 2007*, available at Reserve Bank of India - Frequently Asked Questions (rbi.org.in).
155. LinkedIn, *What are the roles and responsibilities of different stakeholders in payment system interoperability?*, available at Payment System Interoperability: Stakeholders' Roles and Responsibilities (linkedin.com).
156. RBI, Ombudsman Scheme for Digital Transactions, 2019, available at rbidocs.rbi.org.in/rdocs/Content/PDFs/OSDT31012019.pdf.
157. IndiaCorpLaw, RBI's Ombudsman Scheme for Digital Transactions, available at RBI's Ombudsman Scheme for Digital Transactions - IndiaCorpLaw.

JURISDICTION, POWERS AND DUTIES OF OMBUDSMAN

Territorial jurisdiction: The RBI specifies the territorial limits of each ombudsman.

Pecuniary jurisdiction: The Ombudsman shall receive and consider complaints relating to deficiency in services on the grounds mentioned in Clause 8 of the OSDT irrespective of the pecuniary value.

Disposal of a complaint by the ombudsman shall be done through:

- settlement by agreement between parties; or
- conciliation and mediation between parties; or
- passing an award as per the provisions of the OSDT.

General powers of superintendence and control: The Ombudsman shall exercise general powers of superintendence and control over his/her office and be responsible for the conduct of business.

Annual Budget: The Ombudsman will undertake expenditure in accordance to the approved annual budget, drawn in in consultation with the RBI. It is similar to the Expenditure Rules framed by the RBI from time to time.

GROUNDS OF COMPLAINT

Paragraph 8 of the OSDT sets out the grounds of complaint alleging deficiency in service as follows:

1.	**Prepaid Payment Instruments** - Non-adherence to the instructions of the RBI by system participants about PPIs on any of the following:
a.	Failure in crediting merchant's account within reasonable time
b.	Failure in crediting merchant's account within reasonable time
c.	Unauthorised electronic fund transfer
d.	Non-Transfer / Refusal to transfer/ failure to transfer within reasonable time, the balance in the Prepaid Payment Instruments to the holder's 'own' bank account or back to source at the time of closure, expiry of validity period, etc., of the Prepaid Payment Instrument
e.	Failure to refund within reasonable time / refusal to refund in case of unsuccessful / returned / rejected / cancelled / transactions

2.	**Mobile / Electronic Fund Transfers** - Non-adherence to the instructions of the RBI on mobile / electronic fund transfers by system participants on any of the following:
a.	Failure to effect online payment / fund transfer within reasonable time
b.	Unauthorised electronic fund transfer
c.	Failure to act upon stop-payment instructions within the time frame and under the circumstances notified to the customers within prescribed timeline
d.	Failure to reverse the amount debited from customer account in cases of failed payment transactions within prescribed timeline
e.	Failure to refund within reasonable time / refusal to refund in case of unsuccessful / returned / rejected / cancelled / transactions
3.	**Non-adherence to instructions of the RBI / respective system provider to system participants**, on payment transactions through UPI / BBPS / QR Code on the following grounds:
a.	Failure in crediting funds to the beneficiaries' account
b.	Failure to return within reasonable time the payment to the originating member in case of failure to credit the funds to the beneficiary's account
c.	Failure to / delay in refund of money back to account in case of transaction failure or declined transactions (i.e. failed transactions)
4.	**Non-reversal / Delay in reversal of funds** that were wrongly transferred to the beneficiary account due to lapse at the end of System Participant.

PROCEDURE FOR FILING OF COMPLAINT

Steps before complaint to the Ombudsman: A complaint to the Ombudsman can only be made when, (i) the complainant's written-down representation is rejected by the system participant, or, (ii) the complainant had not received any reply within a period of one month after the system participant received her/his representation, or, (iii) the complainant is not satisfied with the reply given to her/him by the system participant.

Ombudsman selection for filing of complaint: Any person having a grievance on any of the grounds as set out above may make a complaint to the Ombudsman within whose jurisdiction the branch or office of the system participant complained against is located.

Form of complaint: The complaint in writing shall be duly signed by the complainant and shall be, as far as possible, in the form specified in Annexure A of the OSDT.

Other requirements *vis-à-vis* the complaint: No complaint to the Ombudsman will have a basis / will hold unless:

i. The complaint is made not later than one year after the complainant has received the reply of the system participant to her/ his representation or, where no reply is received, not later than one year and one month after the date of the representation to the system participant;

ii. In exceptional circumstances as decided by the Ombudsman, the complaint is made before the expiry of the period of limitation prescribed under the Indian Limitation Act, 1963 for such claims.

iii. The complaint is different from any previous complaint which has already been settled or dealt with on merits by the Ombudsman in any previous proceedings, whether or not, received from the same complainant or not;

iv. The complaint pertains to a cause of action that is different from the proceedings pending before any court, tribunal, arbitrator or in any other forum and/or order/decree passed by such court, tribunal, arbitrator or forum;

v. The complaint is not frivolous or vexatious in nature;

vi. The complaint does not fall under the disputes covered under Section 24 of the PSS Act; and

vii. The complaint pertains to disputes that do not arise from a transaction between customers.

SETTLEMENT BY AGREEMENT AND AWARD

Settlement by Agreement: A complaint is deemed to be resolved if – (a) the grievance of the complainant is tackled by the system participant; b) the complainant agrees to the resolution reached with the efforts of the Ombudsman; (c) the system participant has been adhering to the norms set out for its practice and the objections of the complainant do not reach the Ombudsman within the timeframe allotted.[158]

Settlement by Award: The Ombudsman may pass an award if a complaint is not resolved amicably within one month from the date of receipt of the complaint or such other period granted by him, after affording the parties a reasonable opportunity to present their case. However, the Ombudsman has no right to award a compensation greater than the actual loss suffered or INR 2 million, whichever is lower.

Redressal mechanisms for payment system disputes

One of the most significant aspects of consumer protection is effective consumer grievance redressal. In India, several redressal mechanisms are available to consumers for expeditious and amicable resolution of payment system complaints.

PUBLIC GRIEVANCE REDRESSAL MECHANISM

An important goal of this mechanism is redressal of grievance in a time bound manner and betterment of public service delivery in banking, insurance and pension sectors. The Department of Financial Services (**DFS**),[159] proactively deals with all complaints. All the grievances received in the DFS are processed and forwarded through a Centralized Public Grievance Redress and Monitoring System (**CPGRAMS**) to the concerned organisations for resolution / disposal and are monitored and periodically reviewed.

All the Public Sector Banks (**PSBs**), Public Sector Insurance Companies (**PSICs**) and Financial Institutions (**FIs**) within the purview of the DFS and the regulators, i.e., the RBI, the Insurance Regulatory and Development Authority of India (**IRDAI**) and the Pension Fund Regulatory and Development Authority (**PFRDA**) have policies and mechanisms for redressal of grievances through their Customer Service Department.

ALTERNATIVE DISPUTE RESOLUTION MECHANISMS

Simply put, these mechanisms involve negotiation, mediation, conciliation, or arbitration that seek to offer consumers more amicable and expeditious redress.

To promote Alternate Dispute Redressal System in India, the Arbitration and Conciliation Act 1996 was enacted. It consolidated the law relating to domestic arbitration, international commercial arbitration and enforcement of foreign arbitral awards as also defined the law relating to conciliation and for other connected matters[160].

ONLINE DISPUTE RESOLUTION SYSTEM

In light of the surge in disputes with respect to digital payments, the RBI released the Circular on Online Dispute Resolution (**ODR**) System for Digital Payments, dated August 6, 2020 (**ODR Circular**).[161] The ODR system was made applicable for authorised Payment System Operators as well as the Payment System Participants. Under this system, consumers

158. IndiaCorpLaw, *RBI's Ombudsman Scheme for Digital Transactions*, available at RBI's Ombudsman Scheme for Digital Transactions - IndiaCorpLaw.
159. Ministry of Finance, *Public Grievances Redressal Mechanism*, available at Public Grievances Redressal Mechanism | Department of Financial Services | Ministry of Finance | Government of India.
160. Ministry of Finance, *Alternate Dispute Redressal System*, available at USQ 1564 for 28 July 2021.pdf (legalaffairs.gov.in).
161. Mondaq, India: *Online Dispute Resolution Systems For Digital Payments*, available at Online Dispute Resolution Systems For Digital Payments - Arbitration & Dispute Resolution – India, (mondaq.com).

will be offered a multiplicity of channels for filing their disputes.

SCOPE OF THE ODR SYSTEM

The ambit of the ODR system extends to disputes and grievances relating to failed transactions. The scope includes all transaction types mentioned in the RBI circular on Harmonisation of Turn Around Time (**TAT**) and customer compensation for failed transactions using authorised Payment Systems dated September 20, 2019.

LODGING AND TRACKING OF DISPUTES AND GRIEVANCES

In terms of the ODR Circular, customers shall be provided with the facility of one or more channels for lodging disputes and grievances by the PSO as well as by the PSP and the industry may progressively increase the variety of these channels.

In case of mobile phone-based systems like UPI, third party app providers (**TPAPs**) shall also provide customers with a facility to lodge disputes and grievances through the same mobile app used for making payments, once it is integrated with the ODR system.

The process of lodging a dispute or grievance will be simple, involving only necessary minimum details. The ODR system can be made capable of automatically fetching full details based on the information provided by the customer.

GRIEVANCE REDRESSAL MECHANISM (GRM)

A GRM is a formal system through which complaints are resolved in a time-bound manner, thus improving public service delivery.

List Of Abbreviations

Abbreviations	Meaning
2021 PPI Directions	RBI's Master Directions on Prepaid Payment Instruments dated August 27, 2021
4G	Fourth Generation
5G	Fifth Generation
A/C	Account
AD Banks	Authorized Dealer Category-l Banks
ADR	Alternative dispute resolution
AEBA	Aadhaar Enabled Bank Account
AED	UAE Dirham
AePS	Aadhaar Enabled Payment System
AI	Artificial Intelligence
ALS	Apex Level Server
AML	Anti-Money Laundering
API	Application Programming Interfaces
ATMs	Automated Teller Machines
BBPS	Bharat Bill Payment System
BCE	Before Common Era
BCs	Business Correspondents
BHIM	Bharat Interface for Money
Bill	Cryptocurrency Bill, 2021
BIS	Bank for International Settlements
BLFMS	Bank Level Funds Management System
BPSS	Board for Regulation and Supervision of Payment and Settlement Systems
CAGR	Compound Annual Growth Rate
CAPTCHA	Completely Automated Public Turing test to tell Computers and Humans Apart
Cards Master Directions	RBI's Master Directions on Credit Card and Debit Card- Issuance and Conduct Directions, 2022 dated April 21, 2022
CB	Cross Border

Abbreviations	Meaning
CBDC	Central Bank Digital Currency
CBDC-R	Retail CBDC
CBDC-W	Wholesale CBDC
CBUAE	Central Bank of UAE
CCIL	Clearing Corporation of India Limited
CCMP	Cyber Crisis Management Plan
CCP	Central Counter Party
CEO	Chief Executive Officer
CFES	Centralised Funds Enquiry System
CFMS	Centralised Funds Management System
CFTS	Centralised Funds Transfer System
COPRA 1986	Consumer Protection Act of 1986
COPRA 2019	Consumer Protection Act of 2019
COVID-19	Coronavirus Disease 2019
CPFIR	Central Payment Fraud Information Registry
CPGRAMS	Centralized Public Grievance Redress and Monitoring System
CPMI	Committee on Payments and Market Infrastructures
CPS	Centralised Payment Systems
Cross-Border PA	Cross Border Payment Aggregators
CRR	Cash reserve Ratio
DAD	Deposit Accounts Department
DBT	Direct Benefit Transfer
DFS	Department of Financial Services
DICGC	Deposit Insurance and Credit Guarantee Corporation Act
Digital Payment Directions	RBI (Digital Payment Security Controls) Directions, 2021
DLT	Distributed Ledger Technology
DPDPA	Digital Personal Data Protection Act, 2023
DPGRAMS	Centralized Public Grievance Redress and Monitoring System
Draft Regulations	IFSCA (Payment Services) Regulations, 20XX
ECS	Electronic Clearing Service

Abbreviations	Meaning
ECS Debit	Electronic Clearing Service Debit
ED	Enforcement Directorate
EDI	Electronic Data Interchange
EDPMS	Export Data Processing Monitoring System
EEA	European Economic Area
Export Account	Export Collection Account
Export PA	Export only Cross-Border PA
Export-Import PA	Export and Import Cross-Border PA
FAQ's	Frequently Asked Questions
FATF	Financial Action Task Force
FDI	Foreign Direct Investment
FEMA (IFSC) Regulations	Foreign Exchange Management (International Financial Services Centres) Regulations, 2015
Finance Act	The Finance Act, 2022
FIs	Financial Institutions
FIU-IND	Financial Intelligence Unit - India
FMI	Financial Market Infrastructure
FSB	Financial Stability Board
FSP	Functionality, Security and Performance
FY	Financial Year
G20	Group of twenty
GDP	Gross Domestic Product
GIFT City	Gujarat International Finance Tec-City
GRM	Grievance Redressal Mechanism
Gross Settlement	Settlement of funds transfer instructions occurs individually
IDBI	Industrial Development Bank of India
IDPMS	Import Data Processing Monitoring System
IFS	International Financial System
IFSC	International Financial Services Centre
IFSCA	International Financial Services Centres Authority
IFSCA Act	International Financial Services Centres Authority Act, 2019

Abbreviations	Meaning
IMF	International Monetary Fund
Import Account	Import Collection Account
Import PA	Import only Cross-Border PA
IMPS	Immediate Payment Service
INFINET	Indian Financial Network
INR	Indian Rupee
IPP	Instant Payment Platform
IRDAI	Insurance Regulatory and Development Authority of India
IS	Information Security
IT	Information Technology
JAM	Jan Dhan, Aadhaar, and Mobile
KESCo	Kanpur Electricity Supply Company
KYC	Know Your Client
LBFMS	Local Banks Funds Management System
LFMS	Local Funds Management System
LRS	Liberalised Remittance Scheme
LSPs	Loan Service Providers
LVPS	Large-value payment system
Master Directions	Master Direction on Outsourcing of Information Technology Services, 2023
MD	Managing Director
MeitY	Ministry of Electronics & Information Technology
ML	Machine Learning
MMID	Mobile Money Identifier
MSMEs	Micro, Small and Medium Enterprises
MTSS	Money Transfer Service Scheme
MUDRA Scheme	Pradhan Mantri MUDRA Yojna Scheme
NABARD	National Bank For Agriculture And Rural Development
NACH	National Automated Clearing House
NBFC	Non-Banking Financial Corporations
NCDRC	National Consumer Disputes Redressal Commission

Abbreviations	Meaning
NDS-OM	Negotiated Dealing System-Order Matching
NEFT	National Electronic Funds Transfer
NFIs	Non-Bank Financial Institutions
NI Act	Negotiable Instruments Act, 1881
NIPL	NPCI International Payments Limited
NPCI	National Payments Corporation of India
NRE	Non-Resident External
NRE Account	Non-Resident External Accounts
NRIs	Non-Resident Indians
OCEN	Open Credit Network
ODR	Online Dispute Resolution
ODR Circular	RBI's Circular on Online Dispute Resolution System for Digital Payments dated August 6, 2020
Ombudsman	Ombudsman for Digital Transactions
OPGSP	Online Payment Gateway Service Provider
OSDT	Ombudsman Scheme for Digital Transactions
OWASP	Open Web Application Security Project
PA	Payment Aggregators
PA Guidelines	RBI's Guidelines on Regulation of Payment Aggregators and Payment Gateways dated March 31, 2021
PA-CB	Payment Aggregator - Cross Border
PA-CB Guidelines	RBI's Circular on Regulation of Payment Aggregator - Cross Border dated October 31, 2023
PAN	Permanent Account Number
PFMS	Public Financial Management System
PFRDA	Pension Fund Regulatory and Development Authority
PMJDY	Pradhan Mantri Jan Dhan Yojana
PMLA	Prevention of Money Laundering Act, 2022
PPI	Prepaid Payment Instruments
PPI Directions 2017	RBI's Master Direction on Issuance and Operation of Prepaid Payment Instruments dated October 11, 2017
PSBs	Public Sector Banks
PSD2	Payment Service Directive 2
PSICs	Public Sector Insurance Companies

Abbreviations	Meaning
PSOs	Payment System Operators
PSP	Payment Service Providers
PSS Act	Payment and Settlement Systems Act, 2007
QR	Bharat Quick Response
RBI	Reserve Bank of India
RBI-DPI	Reserve Bank of India – Digital Payments Index
RDA	Rupee Drawing Arrangement
Real Time	Instructions processed promptly upon receipt
REs	Regulated Entities
RTGS	Real-Time Gross Settlement
SBI	State Bank of India
SEZ	Special Economic Zone
SEZ Act	Special Economic Zones Act, 2005
SLR	Statutory Liquidity Ratio
STP	Straight-through-processing
SWIFT	Society for Worldwide Interbank Financial Telecommunication
TAT	Turn Around Time
TPAPs	Third Party App Providers
TR	Trade Repository
TReDS	Trade Receivables Discounting System
UAE	United Arab Emirates
UPI	Unified Payments Interface
UPI PIN	Unified Payments Interface Personal Identification Number
UPU	Universal Postal Union
URL	Uniform Resource Locator
US	United States
USD	United States Dollar
USSD	Unstructured Supplementary Service Data
VDA	Virtual Digital Asset
Vision	Payment and Settlement Systems in India: Vision 2019-2021
VPA	Virtual Payment Address

CONTRIBUTORS

Editors

Jhini Phira

Devika Ghosh

Authors

Senior Advisors:

Lily Vadera

B. Sriram

Manmohan Juneja

Principal Associate:

Utkarsh Bhatnagar

Senior Associate:

Hamraj Singh

Partners:

Anu Tiwari

Sara Sundaram

Associates:

Jinisha Motwani

Karthik Narayan

Anushri Mandal

Yusuf Kathawala

Chaitanya Acharya

cyril amarchand mangaldas

ahead of the curve

www.cyrilshroff.com
www.cyrilshroff.com/blogs

mumbai

Peninsula Chambers, Peninsula Corporate Park, GK Marg,
Lower Parel, Mumbai – 400 013, India
T +91 22 2496 4455 F +91 22 2496 3666
E cam.mumbai@cyrilshroff.com

delhi-ncr

Level 1 & 2, Max Towers, C-001/A, Sector 16 B,
Noida – 201 301, Uttar Pradesh, India
T +91 120 669 9000 F +91 120 669 9009
E cam.delhi@cyrilshroff.com

bengaluru

3rd Floor, Prestige Falcon Tower, 19, Brunton Road,
Off M G Road, Bengaluru – 560 025, India
T +91 80 6792 2000
E cam.bengaluru@cyrilshroff.com

ahmedabad

Block A-1512, 15th Floor, Navratna Corporate Park,
Ambli Bopal Road, Bodakdev, Ahmedabad – 380 058, India
T +91 79 3503 9999
E cam.ahmedabad@cyrilshroff.com

chennai

Office No. 823 & 824, 8th Floor,
Regus KRM Plaza, Old Harrington Road,
Chetpet, Chennai – 600 031, India
T: +91 44 4904 2874
E cam.chennai@cyrilshroff.com

hyderabad

Office No. 226, 2nd Floor, Regus Ilabs Oval,
Gate No. 6, Inorbit Mall Road, Madhapur
Hyderabad – 500 081, India
T: +91 40 4433 4323
E cam.hyderabad@cyrilshroff.com

gift city

Cyril Amarchand Mangaldas – OFC,
415, Pragya Tower, GIFT City, Gandhinagar - 382 355,
Gujarat, India
T +91 79 4903 9900 F +91 79 4903 9999
E cam.giftcity@cyrilshroff.com

singapore

61 Robinson Road,
#11-03, Singapore - 068 893
T +65 6329 2260
E cam.singapore@cyrilshroff.com
(CAM Singapore Pte Ltd., UEN: 202137213R)

cyril amarchand mangaldas

ahead of the curve