



Digital Financial Services: Response to Atmanirbhar Bharat

**ASSOCHAM National E-Summit & Awards on
Banking & Financial Lending Companies**

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CONTENTS

Sr. No.	Topic	Page No.
1.	Digital Lending.....	05
2.	Digital Deposits	16
3.	Digital Services	30





DIGITAL LENDING

A modern, growing and robust economy rests and grows on the pillars of financial inclusion, which entails providing access to financial services and products to all individuals and businesses across the social spectrum at affordable costs, in a timely manner and tailored to their needs, from reliable and responsible providers. Further, use of advanced technologies and initiatives by traditional banking sector players and FinTechs is also gradually resulting in availability of financial products and services to the bottom of the pyramid segment, who have otherwise been largely devoid of basic bank accounts, credit and other financial services.

By increasing the participation of low-income groups and credit-starved micro and small business segments within the formal financial services sector, the financial wealth of these customer segments is safeguarded through savings and investments. On the other hand, access to credit enables individuals and business to purchase more, and small and medium businesses to grow, thus creating jobs, reducing inequality and facilitating economic growth.

The aversion of traditional lenders to service apparently risky low income but under served segments has motivated new-age digital lenders to quickly fill the void by leveraging cutting-edge technology and alternative credit assessment models and reach out to a wide customer base. With technological advances and a conducive policy environment, digital lending as a service has caught the attention of consumers and investors alike.

The digital lending market is spiking in India. With numerous benefits over the traditional lending process, people and businesses are opting for loans digitally. Moreover, an increasing number of banks offering loans using legacy systems are switching to digital lending. It is safe to say that the future looks promising for digital lending.

Traditional lending, while still going strong, has many downsides when compared to digital lending. Credit seekers have to go through a long, tedious process to get their credit sanctioned. FinTech lenders have capitalized upon the needs and pain points of the consumers across the lending value chain for uncomplicated on-boarding/ KYC processes, prompt decision making and instant disbursements in a seamless, automated and personalized experience. Digital lending has significant advantages over traditional lending, with the potential to address prevalent credit-related challenges in India. One of the best advantages of digital lending is faster approval of credit. Credit evaluations and loan disbursements on digital platforms have visibly quicker turnaround times than traditional loans – particularly for small-ticket credits and advances, which are most common among new-to-credit borrowers. Some of the factors why the disbursement turnaround time is significantly lower in digital lending are replacement of manual form filing by digital data captures, automated evaluations leveraging on technologies like advanced analytics, artificial intelligence (AI) and machine learning (ML) and no or little in-person visits. FinTech lenders use cash flow-based data and other surrogate data from sources such as telecom, utility and social media, combined with psychometric analysis to evaluate ability and willingness to pay.

Another key advantage associated with digital lending models is the operating cost efficacy. Traditional lending models, usually, have high overhead costs, surfacing from deeply entrenched manual processes. FinTech lending models, conversely, do not require physical branch networks, are asset-light and have technology-enabled operating and business models which require minimal human intervention, thus reducing manual operating costs. This model allows FinTech lenders to keep fixed costs nominal and aggregate a multitude of low-value loans, which enables them to serve low-ticket credit individuals in semi-urban and rural areas and MSMEs.

Lending model, in every part of the world, is evolving rapidly in the last few years. Initially, it was led by FinTech companies, however, traditional banks and Non-banking financial companies (NBFCs) soon followed it. This on-going growth is being driven by several factors, some of those factors are: 1. Consumer behavior which demands everything online and in a quick time, 2. Technological innovations led by penetration of smartphones and reduced cost of internet, 3. Regulatory environment which is getting favorable with digital lending and 4. Innovations in the lending models.

In such a context, every lending company has been trying to realize such an opportunity, and financial institutions are taking steps to acquire maximum share of the digital lending market. Some of the steps taken by financial institutions are as follows:

- **Simplified on-boarding of customers:** In this digital era, customers want an end-to-end frictionless experience and seamless on-boarding and most of the companies are focusing on the same.
- **Tech platform:** Companies are developing their own technology platform on which customers can be provided smooth digital lending journey.

- **Alliances and Partnerships:** Some of the companies are developing in-house technologies, however some of the companies are partnering with FinTech companies or platforms for customer acquisition and lending purpose.
- **Cultural transformation:** Some of the current roles are getting redundant due to technology advancement and therefore, training is being provided to employees to equip them with the necessary skillsets.

Innovative Lending Models

The continued growth in digital lending has been driven by innovative lending models adopted by FinTechs, big data companies, financial aggregators, etc. A few examples of models are as below:

- **Point of Sale transaction-based lending:** Using data from POS machine, some companies have built a proprietary technology platform to offer unsecured loans to merchants.
- **Bank-FinTech partnership models:** FinTechs are partnering with banks to target specific segments such as MSMEs. They also partner with data aggregators and marketplaces in each segment, that provide transaction data to assess the risk profile of borrowers. Some FinTechs operate on the hybrid model (partnership as well as independent financing).
- **Invoice discounting exchanges:** Few FinTechs are disrupting the MSME lending marketplace by helping businesses achieve their short-term working capital needs by discounting their unpaid invoices to a network of buyers and investors. After raising the invoice, the SME lists the invoice on their platforms, at a certain discount; on successful payment of the invoice, the full amount gets credited to the investors directly.
- **Marketplaces:** Marketplaces are focused on meeting the financial needs of consumers by providing consumers with the choice of the financial institutions. In addition to this, marketplaces are also focused on digitizing the entire supply chain in order to provide the consumers a seamless end to end digital experience.
- **Bank-led digital models:** While several banks have launched pure digital savings account acquisition journeys, a few banks are leveraging these digital platforms to sell loan products as well.
- **Captive models:** Another trend which is emerging is that of non-financial players such as e-commerce and cab tech companies launching lending solutions to their captive customer base in partnership with banks and NBFCs.
- **Peer to Peer (P2P) lending:** Several FinTechs have emerged in this space. P2P model aims to meet the demand of borrowers through supply from HNIs as well as the one who have excess cash and looking to deploy it in an alternative asset class.

Regional Trends

Structural factors within different regions and individual countries play a significant role in the ability of service providers to develop digital lending solutions. Few noteworthy regional trends are highlighted below:

Latin America

In Latin America, the current enabling environment is ripe for digital innovation. Policies mandating electronic invoicing have been implemented throughout the region, substantially increasing access to digital transactions and detailing vendors' cash-flows and repayments. There has been an increasing number of non-exclusive agent networks that serve multiple service providers in Latin America. Nearly 40% of FinTech services are focused on serving un/under banked MSMEs, and merchant lending and payment models that cater to retailers is on the rise.

Africa

Mobile Network Operators (MNOs) are strong players in Africa's financial inclusion market and have buoyed the evolution of mobile payments throughout the region. Because of this, Africa has seen a new wave of partnerships between MNOs and service providers (e.g. MTN Mobile Money, Safaricom, and CBA from mShwari), but revenue sharing agreements can be a source of tension between large MNOs with strong negotiating power and FinTech startups or small service providers. Further enabling more digital lending activities, most digital products are designed for USSD. However, even though there is a push to develop tools and support for financial services, the growth of digital lending in Africa will likely be hampered as digital financial literacy remains low. In addition, the aggressive use of SMS marketing for nanoloans has been linked to rising defaults in the region. Microsave studies in Kenya have revealed the importance of human intervention in repayment and collections, emphasizing again the need for responsible lending and a blended 'tech and touch' approach when appropriate.

China

China's e-commerce and social platforms, namely Alibaba and WeChat, leverage deep data that has transformed digital banking. They use this data to originate, score, lend, and create a seamless online experience, backed by recently acquired banking licenses. These non-bank giants dominate lending – Alibaba and WeChat's total number of clients match or exceed China's top banks. Elsewhere, traditional retailers often collaborate with financial institutions to offer digital credit. In China there is a high cultural willingness to share personal information and adopt mobile technology. New FinTechs are taking advantage of this trend and targeting niche markets like rural SMEs, agricultural supply chains, or specialized consumption (education or salary). This has led to near universal merchant acceptance of mobile payments (using QRcodes) which can support a cashless economy. 'Right touch' regulation policy is conducive to new business models.

Major Growth Drivers

According to the report published by Allied Market Research, the global digital lending platform market garnered USD 5.58 billion in 2019, and is expected to generate USD 20.31 billion by 2027, manifesting a CAGR of 16.7% from 2020 to 2027. Digital lending across sectors in India is estimated to be around INR 2.7 trillion as of March, 2019. As per Industry FinTech report, India's market for digital lending is poised to grow from USD 110 billion in 2019 to USD 350 billion in 2023. This will increase the share of digital lending in India's overall lending market from 23% in 2018 to 48% by 2023, making digital lending a sector with

the highest penetration by digital channels in the country. The joint report from ICICI Bank and CRISIL estimates that the digital lending sector would account for 16% of retail loans in the next 5 years, a 10% increase from the current share of 6%. Digital loans forecast for FY24 is pegged at INR 15 trillion with banks dominating the markets, accounting for 77% of the total number of digital loans. Over the past few years, there has been a spurt in digital lending, resulting in some noteworthy investments in automation, online applications and borrower portals to keep up with radical changes in digital disruption and addition of new digital tools to track and optimize customer acquisition. Digital footprint, which refers to traceable digital activity, acts as a catalyst for digital influence in the Indian banking sector, as institutions can now access consumable data to feed in credit scoring models. More than 80% of all Indian banking customers use digital banking services for their day-to-day activities. The following can be said to be the major drivers for growth of FinTech and digital lending:

- Strategic partnerships and collaborations between traditional financial institutions and new-age FinTechs
- Easy market entry and targeted loan offerings due to availability of large sets of customer data, which can give collective and individual insights
- Better margins than other FinTech business models, such as payments and other financial services
- Changing consumer behavior and expectations shaped by purchase/transaction experiences offered by e-marketplaces like food delivery, e-commerce and travel portals
- MSMEs play a vital role in our economy, as roughly 65 million MSMEs in India employ nearly 80 million people. These MSMEs account for 95% of the country's manufacturing output. Despite this, the MSME sector, to a great extent, has remained credit-deficient and underserved by traditional FIs. Market potential of MSMEs in India:
 - o Credit demand will see a CAGR of 6% by 2023
 - o Unmet credit gap of approximately USD 1 trillion is to be tapped by 2023
 - o According to one of the industry reports, almost 50% of Indian MSMEs have adopted digital tools for business processes and payments, and online sales (digital in accounting, payments, sales).

Thus, with a modernized approach towards lending for MSMEs by driving government-focused initiatives and leveraging digital technology, FinTech lenders and financial institutions can support deeper financial penetration for this segment.

- Affordable alternative lending practices can help FinTech leaders explore the huge untapped market for loans and bring in more inclusion; there is a need to increase availability of small-ticket size products – to lift people out of poverty.

Three Core Components of Digital Lending

Digital Channels

Digital lenders leverage digital channels such as smartphone apps and USSD (Unstructured Supplementary Service Data) menus to reach new and existing customers where they are – at home, at work, or on-the-go – so they can apply for credit, receive loan disbursements, obtain information on their accounts, and make payments remotely. An effective digital channel allows customers to engage with the product or service wherever and whenever is convenient for them. Such channels also support the collection of digital customer data by the service provider.

Digitized Data

In lieu of face-to-face, time intensive evaluations, digital lenders depend on digitized data to evaluate clients. A variety of data sources, such as bank statements, bill payment histories, e-commerce transactions, call data records, and credit bureau information, are fed into algorithms and analyzed to predict willingness and capacity to repay. Customer data is also used to build engagement tactics and improve the customer experience – for example, by offering personalized communications or specially-designed product offerings such as targeted promotions based on customer behavior.

Customer Experience and Engagement

Digital lending from the customer perspective focuses on how the customer experiences a digital product. Digital lenders use digital channels and data to offer clients convenient access, quicker approval, personalized communication, and responsible products and pricing.

Application of Data and Analytics

The last few years have seen an explosion in the availability of digital data in India. More than 120 crores Indians are enrolled in “Aadhar” and have a digital as well as biometric footprint. Digitization of various databases and records has resulted in multi-fold increase in data of individuals and corporates. Demonetization provided a momentum for digitization of payments, thereby making transaction data available online. This was enhanced by the implementation of GSTN which made invoices and trade data digital.

Big data will grow bigger as more consumers come online and transactions and consumer service move online. This will enable lenders to take better informed lending decisions, offer personalized and customized solutions to consumers and drive higher consumer engagement.

While lenders seek access to consumer data to drive their digital initiatives, the vision of ‘Digital India’ is supported by the government through variety of initiatives, e.g., TReDS as a platform for enabling online invoice discounting, GSTN as an entity providing the technology infrastructure to enable GST implementation, GeM as a marketplace taking government procurement online, etc. Another key step announced by the regulator is the launch of a Public Credit Registry (PCR). Such a registry will augment the existing bureau databases and immensely help in collections and resolutions. These initiatives, combined with other initiatives on implementing UPI, Aadhar, etc. are taking significant strides in making India digital.



Retail consumers' digital footprint

Digital Lending Process

The following is a description of the general digital lending process which is being followed by most of the FinTech companies:

1. **Customer Acquisition:** The first step in the digital lending process is customer acquisition. Digital lenders may approach potential customers either through direct or indirect channels. Direct digital modes of acquisition/marketing that lenders use include short message service (SMS), and social media advertising. Lenders may also acquire customers by maintaining a partnership with a 'data-rich' entity such as a mobile network operator or e-commerce marketplace and leverage the customer segment information that they already possess. There is also the alternative of indirect acquisition of customer data, which requires lenders to purchase access to customer data basis a contract.

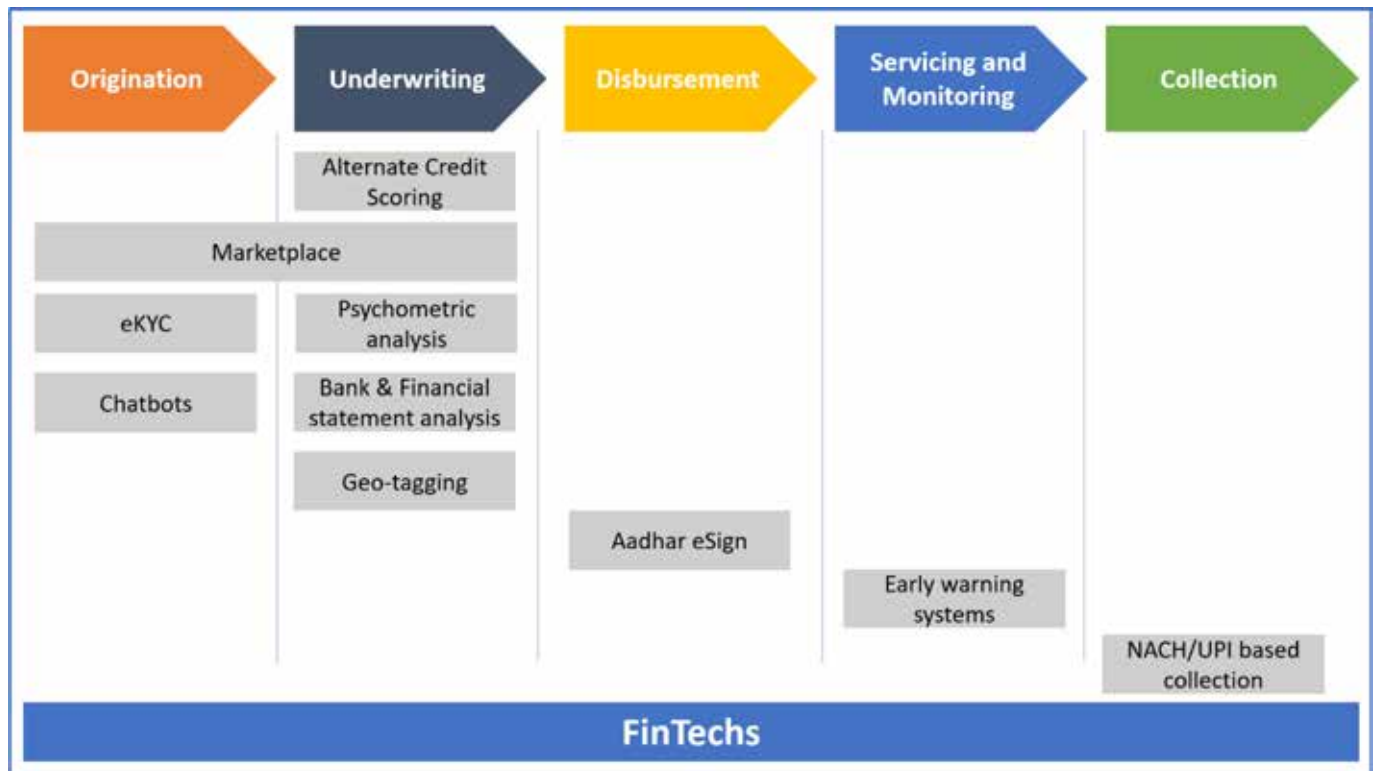
The lead generation is being mainly done through the following methods:

- **Brick and mortar branch:** The lenders rely on their physical infrastructure, including branch offices, loan officers or relationship managers to source borrowers. The relationship managers assist the customers in the onboarding process.
- **Channel partners:** Lenders also rely on partnerships with e-commerce platforms, aggregators or marketplaces (such as Amazon, Flipkart etc.), mobile wallet companies, participants in the supply chain (such as machine manufacturers, Fast-moving Consumer Goods (FMCG) distributors) etc. to source borrowers.

- **Direct Selling Agents (DSA):** Authorized DSAs function as referral agents for the lender and find potential borrowers for the lender to service.
- **Referrals from current borrowers:** Lenders provide several benefits for successful referral from existing borrowers.

In the customer onboarding process, identity verification of the prospective customer is enabled through either the relationship managers/credit/sales team that sources them, or by employing third-party service providers for doing KYC.

2. **Appraisal and Analytics:** Digital lenders use both traditional and alternative sources of data. The former usually include financial statements, business plans and credit bureau scores, while the latter comprise bank statements and cash flow analysis, call data records, digital transactions (such as invoices, transaction data from point-of-sale machines etc.), and data from social media. Alternate data was indicated to be used for customers who have a limited credit history or digital records that can be used to evaluate credit risk. Verification of data is done through several methods such as personal interviews with the borrower, physical verification of the business, referential validation through buyers/ suppliers and so on. The lenders usually have their own proprietary algorithms and risk models to assess the creditworthiness of customers, based on the information collected. The lender might also partner with other third-party vendors for specific purposes, such as with API aggregators, verification agencies, valuation agencies, fraud control units etc.
3. **Loan Sanction:** Based on the results of the creditworthiness assessment, the lender decides on the loan amount to be offered, the tenure of repayment, as well as the interest rate to be charged. The borrower is charged a processing fee if the offer is accepted.
4. **Disbursement:** Cashless channels [such as real-time gross settlement (RTGS) and National Electronic Fund Transfer (NEFT)] seem to be the preferred mode of disbursement to customers. The disbursement of funds is usually to the bank account of the customer.
5. **Collection:** Digital lenders tend to leverage the data that they have, along with their algorithmic capabilities to anticipate and design an optimum collection process. Repayment is usually through automatic clearing house (ACH) payment or post-dated cheques. Other repayment methods include cash, Unified Payments Interface (UPI), digital wallets, etc. The collections process usually consists of three steps:
 - a. Initially, a reminder for repayment is sent through an SMS, WhatsApp message, or by a call center representative;
 - b. In case there is a delay in repayment, then the customer is approached by the relationship manager;
 - c. The third point of contact is the collections team, which might be in-house or a third party.
6. **Customer Engagement:** The major points of customer engagement are the relationship managers in the branch offices, and the customer service team. The lenders also operate a customer care number, and an email for grievance redressal.



Use of technology applications in each step of digital lending

Digital Financial Inclusion

Financial stability is a crucial underpinning for economic development and financial inclusion. The robustness and resilience of financial institutions are as significant as that of its financial system and markets. If an NBFC or a cooperative bank fails, its customers may tend to lose faith in the broader financial and banking system as well. Such failures may emanate not only from inferior banking practices, but also from insufficient deposit insurance and inadequate regulation, governance, and supervision – all of which result in trust erosion.

A key deterrent is perceived lack of trust in banking and financial system, which may be due to prevalent headlines of past bank fallouts and the accompanying loss of hard-earned savings.

Recent economic fluctuations, predominantly stemming from asset-liability mismatches of NBFCs and their trickle-down effect in the broader financial market and the banking sector, have prompted financial institutions to become cautious and put the brakes on unencumbered lending. This has raised borrowing costs and led to a credit crunch for industries and individuals. It has been observed that in a financially adverse climate, credit may be cut off for embryonic start-ups like FinTechs, who usually depend on NBFCs for their capital needs, or receive credit furnished at a steep interest cost, making business viability more difficult.

Another, barrier to financial inclusion is ‘high cost’. Financial products and services such as bank accounts and borrowing are high-priced for the targeted ‘next half billion’ users of India. The penetration of credit

in Tier-II and Tier-III cities and rural areas of India is still very stunted and can be viewed from a demand and supply viewpoint. Low demand for formal credit penetration could be attributed to factors such as low- or unsteady-income levels, inexperience and unawareness of financial products and services. On the other hand, the issues related to supply could be attributed to unavailability of appropriate credit products corresponding to the needs of the low-income segment and businesses, complex and time-consuming processes and language blocks because of scarcity of bank/NBFC branches in low-income localities. This is particularly true of traditional financial service models which are dependent on manual processes and are labour intensive, leading to high-unit economics. This makes it financially unviable for such banks/NBFCs to cater to customer segments that have low-ticket size. Credit from the formal sector, as compared to informal credit, has better repayment terms and conditions and is typically cheaper, but shadow market lenders exploit demand- and supply-side issues areas to exercise usury.

‘Lack of documentation’ is another weighty impediment to financial inclusion. Elementary documents such as national identity cards for banking services and income proof or as set record for credit applications are required for traditional financial institutions. Often, the absence of these result in shadow banking lenders providing credit at exorbitant interest rates.

While regulations, governance and financial stability measures resolve trust-related hindrances to some extent, such measures are insufficient on their own to promote financial inclusion. Among other facets, such as a competent legal system, technology and innovation are crucial to address and resolve barriers to financial inclusion. Cutting-edge technology-aided new business models are the key to tackle other barriers to financial inclusion, including high costs of financial services and potential customers’ lack of documentation and credit history.

Therefore, digital lending can be a powerful force for financial inclusion. In India, new-age FinTech lenders are currently playing a pivotal role in meeting the financial needs of individuals and businesses and disrupting conventional financial services by reaching out to un-served or under-served people. Innovations in digital lending are enabling financial service providers to offer better products to more under-served clients in faster, more cost-efficient, and engaging ways. The effects of the disruption caused by digital lending across the spectrum of consumer engagement, origination, credit assessment, underwriting, risk monitoring, compliance, governance, and collection are still unfolding. A majority of FinTech start-ups are still at a nascent stage and working on quantifying alternative data, which plays a substantial role in assessing the creditworthiness of a customer.

Adopting technological innovations across the lending value chains will aid optimization of resources and processes, reduce turn around time for approval and disbursement of credit/loans, facilitate intuitive and automated decision-making, and ensure accessibility of credit/loans for customers at rates tailored to their socio-economic profile. This would give FinTech lenders a tremendous advantage over traditional banking systems as they will be able to tap into a previously unexplored segment of borrowers and drive maximum possible growth. The success of digital lenders to drive financial inclusion will largely be dependent on their ability to make the best use of technology, human capital, and strategic partnerships. Traditional financial institutions have a large base of customers and FinTech lenders have the right technological

support; together, they can form a mutually beneficial relationship to amplify the processes of helping customers from all socio-economic backgrounds to secure credit/loans.

Further, government and regulatory bodies have a significant role in drafting, implementing, and monitoring comprehensive policies that strengthen the overall financial ecosystem, including consumers, businesses and investors. These policy initiatives by the government could include providing incentives to FinTech lenders for amplifying the supply and affordability of credit products and services, as well as generating demand for credit by financially empowering and educating the consumer.

Risks in Digital Lending

The transition to digital lending brings out new risks for consumers and ongoing risks may manifest themselves in new ways. Digital lenders will want to prevent or mitigate such risks as they design their products and consumer interfaces. A few salient risks, with suggestions for addressing them, are discussed below:

- **Appropriate product design and delivery:** Digital lending can be easy and fast, and borrowers are susceptible to “push” marketing and fraud. Lenders are advised to give customers time to reconsider borrowing decisions, e.g. “cooling off periods”. Careful customer segmentation may reduce the drive towards aggressive marketing. Clear communication with borrowers can help them differentiate fraudsters from legitimate lenders.
- **Prevention of over indebtedness:** Where possible, lenders engaged in refining new credit algorithms should consider not penalizing or reporting early defaulters to credit bureaus for small infractions. When offering small, short-term loans, lenders can protect customers from debt traps by mandating a “resting” period with no outstanding loans every few cycles. Algorithms should consider repayment capacity.
- **Transparency:** It is very important, though often especially challenging, for lenders to present prices, terms, and conditions clearly on digital interfaces. However, well-designed interfaces can increase uptake. Small digital surveys offer simple ways to confirm customer understanding.
- **Fair and respectful treatment:** Algorithms are intended to avoid human biases, but biases can appear. Algorithms should be reviewed from time to time to see whether they introduce unwanted discrimination.
- **Data privacy:** Lenders are advised to seek consent from consumers for the use and sharing of their data. Given the security vulnerabilities lenders are also advised to perform thorough data security audits.
- **Complaint resolution:** Problem resolution systems need to be available to consumers, preferably including some ability to speak directly to a person. Lenders are advised to inform customers frequently about how to resolve problems.



DIGITAL DEPOSITS

India's digital financial inclusion journey

Since 2014, India has embarked on one of the most ambitious financial inclusion initiatives ever seen anywhere in the world, bringing over 330 million people into the formal financial sector.

The expansion in digital financial inclusion in India has been driven by significant innovation in both the public and private sectors. One of the key drivers has been government policy that explicitly prioritizes access to the banking system as a tool for poverty reduction and inclusive growth. Under the Government of India's Pradhan Mantri Jan-Dhan Yojana (PMJDY) scheme, bank accounts have been opened for the majority of Indian citizens and these accounts have become the default channel for delivery of government payments, such as through the Direct Benefit Transfer (DBT) system.

To achieve such rapid scale in account opening, the government has taken a big bet on technology. Growing internet coverage and smartphone penetration means that the future of banking is expected to be digital. By linking bank accounts to biometric identification (through the Aadhaar scheme) and to mobile numbers, the aim is to leapfrog more traditional models of financial access. Through licensing new tiers of financial institutions, government has pushed a differentiated banking model in which companies like Mobile Network Operators (MNOs) and FinTechs can provide banking services under a Payment Bank license, and microfinance institutions (MFIs) are encouraged to leverage technology to align with the market and as an

incentive for their growth into Small Finance Banks. The growth of digital payments received a particular one-off boost due to the government's sudden demonetization policy in November 2016.

Between 2014 and 2017, the proportion of the adult Indian population with an account at a financial institution increased from 52.8% to 79.8%. Over the course of three years, this represents over three hundred million people brought into the formal financial sector.

This period of growth was due in part to an extraordinary political push by the Modi government, elected to power in May 2014, to use financial inclusion (and in particular digitally driven financial inclusion) as a key lever to promote economic and social development. The PMJDY, a drive to provide all Indians with a bank account, was the cornerstone of this policy agenda. At the same time, the financial inclusion push intersected with two other major policies of the Modi government: Digital India (driven by the rapid expansion in mobile phone and internet coverage) and Aadhaar (the provision of a unique digital ID for every citizen). The troika of PMJDY, Aadhaar and Mobile, summarizing the drive to digitally led financial inclusion, was called the J-A-M trinity.

The government's initiatives in this space have been supported and accelerated by an active private sector ranging from large commercial banks to international technology companies and FinTech startups, and by a development sector keen to support innovation to promote poverty reduction and inclusive growth in India.

While state-owned enterprises (such as State Bank of India, which opened a third of PMJDY accounts) continue to play a key role in the direct provision of banking services across India, the past four years have been characterized by a shift in the overall role of government in the financial inclusion agenda. In a technology-led model, the government has also prioritized the creation of enabling infrastructure, such as digital identification and payments technology, on which the private sector can build. The ultimate example of this has been Unified Payment Interface (UPI), which has grown from nothing to overtake debit cards and pre-paid wallets as the primary form of digital payments. UPI was created and is managed by the National Payments Council of India (NPCI), an initiative of the Reserve Bank of India (RBI) and the banking sector.

Despite massive growth in account opening, there is evidence that India's digital finance push is having limited impact due to account dormancy and low levels of usage. 48% of people with an account at a financial institution made no deposits or withdrawals from that account over the past year. Account dormancy is higher among populations with lower access to technology, such as poorer and rural populations. Major challenges remain around the viability of agent networks, financial literacy, the design of appropriate products for India's diverse population, and the stickiness of demand for cash as a means of payment and jewellery and livestock as savings tools.

The role of digital payments in expanding financial inclusion

There are a number of important findings that will help the digital finance space to grow in a more inclusive way. These include:

1. **The human touch point remains critical** – even as technology enables rapid scaling of business models, the need for trust and understanding of how to use these services will continue to require interaction with a human being at the last mile.
2. **Digital finance is closely linked with aspiration** – in both urban and rural environments, the desire to try new digital products and continue to use them is closely linked with aspirational characteristics like wanting to grow a business or participate in the broader national digital economy.
3. **Product design is important and underrated** – a number of models appear to have struggled because financial services do not meet the differentiated needs of Indian populations. Too often products have been designed for the needs of wealthier, urban, Hindi and English-speaking populations, effectively excluding large swathes of the market opportunity.
4. **A lot of people still really like cash** – much of the movement towards digitization is based on an assumption that it provides an improvement on cash-based payments. This can overlook the complexities around why some people use cash and the difficulty of changing behaviour.
5. **More exploration is required around the linkages between digital payments and financial inclusion** – while great progress has been made in the access to financial services, the relatively low levels of usage hint at a disconnect between what is assumed to be the impact of digital financial services and the reality on the ground.

Neobanks and the next banking revolution

The business of banking is changing rapidly. Products and services rendered and built on disruptive technologies are increasingly being placed in the hands of end customers, and the behaviours of banks are changing in terms of customer convenience, transparency, pricing and customer service. As customers' behaviours and expectations change, so do the business and operational models.

Every part of the banking value chain – from what consumers can avail and expect in terms of banking services – can now be accessed by a non-banking service provider through its technological prowess and agile and lean business models. Under these models, retail and small and medium enterprises (SME) banking services are primarily delivered through the internet or other forms of electronic channels instead of physical branches. These non-banking service providers are called neobanks and they are challenging the present status of traditional banks, by offering lower cost models and hyper-distinctive customer-centric service and experiences. Unlike their traditional counterparts, neobanks aren't constrained by legacy systems, tightly integrated value chains, complex administrative structures and lofty regulatory requirements. Though neobanks don't have their own bank licences in India yet, they use partners to offer bank-licensed services.

Convenience of opening and operating accounts, seamless payments, transfer and remittance solutions and alternative methods for assessing creditworthiness are some of the features that are attractive to micro and small companies and under-banked or un-banked customers such as freelancers and gig economy employees. Neobanks have provided these segments access to financial services and products, which were either scarcely available or came with heavy fees and stringent agreements.

Digital banks vs neobanks

A digital bank and a neobank aren't quite the same, even though they appear to be based on the mobile-first approach and emphasis on digital operating models. While the terms are sometimes used mutually, digital banks are often the online-only subsidiary of an established and regulated player in the banking sector. A neobank, on the other hand, exists solely online — without any physical branches and independently or in partnership with traditional banks. This enables them to navigate and comply with the regulatory environment.

A private sector bank in India has partnered with a Fintech start-up – a neobank – to transform the employee benefits ecosystem. This neobank provides an integrated solution, comprising a multi-pocket card, a mobile app and a digital account with multiple payments wallets. Under this partnership, the private sector bank and neobank have rolled out a benefits card, which makes it easier for organisations to give employee benefits and for employees to claim them. The solution leverages state-of-the-art in-mobile technologies and has been built on the IndiaStack principles, including e-KYC by Unique Identification Authority of India (UIDAI) and Unified Payments Interface (UPI), launched by the National Payment Council of India (NPCI) in 2016.

Neobanks: Fertile ground for opportunities

The global neobank market was worth USD 18.6 billion in 2018 and is expected to accelerate at a compounded annual growth rate (CAGR) of around 46.5% between 2019 and 2026, generating around USD 394.6 billion by 2026.

The substantial growth potential for neobanks is driven by their low-cost model for end consumers with no or very low monthly fees on banking services such as minimum balance maintenance, deposits and withdrawals. Adoption by millennials, micro, small and medium enterprises (MSMEs), and those having sporadic incomes and earnings, embracement of innovative technologies and rising consumerism are some of the catalysts for the success for neobanks. The high adoption rates and successful business models of neobanks have piqued the interest of investors, venture capitalists and corporates, who contributed USD 586.7 million of the total funding of USD 3.49 billion received by FinTechs globally in March 2018.

In 2018, the business sector accounted for majority of the global market revenue of neobanks, due to growing acceptance of digital payments in both multinational companies and organisations in their nascent stages. MSMEs received services such as accounting, budgeting, taxation, analytics from neobanks at fractional costs. Such services were earlier accessible only to larger establishments, owing to the costs involved.

Neobanking opportunities in India

Between, 2017 and 2018, India's mobile banking users increased by 13% and 92% in value and volume terms, respectively. But as per the Global Findex Database of 2017, 80% of India's population remains severely underbanked, which reflects the untapped potential in the country for mobile-based neobanking services.

Neobanking in India has scope for significant growth as MSMEs in the country can avail their services on a large scale. MSMEs are numbered at 36.2 million (2017) and account for 95% of the country's total industrial units, but have been either out or under-served by traditional banks' operational ambit, depriving them of formal banking and credit needs. The focus on digital economy and adoption of mobile banking, coupled with the underserved banking, financial and credit needs of both MSMEs and retail segments, present substantial market opportunities for neobanks in India.

At present, there are four main neobanks in India, which have received sizeable funding from investors. In addition, there are global banks, which view India as an engine of growth. Recently, one of Singapore's largest banks launched its services in India, including savings accounts, fixed accounts, payments solutions, transfers and investment management. The services offered by the bank are completely digital, without any presence of physical branches.

Advantages and shortcomings of neobanks

Opportunities and advantages

- Low cost structure: no monthly fees and no withdrawal costs
- Higher rates on savings and fixed deposits than traditional banks
- Simple and engaging mobile experience
- Near real time services for account opening, payments, balance checking, opening and redeeming time deposits, etc.
- Intuitive budgeting, investing and money tracking tools
- Free debit cards with large ATM networks of partner and associate banks with no fees
- 24*7 support – advanced chatbots
- High security features such as locking and freezing any time through app
- Personalised offers and discounts depending on income, expense and spending habits
- Most neobanks provide international payments at interbank rates through various banking and payments partners
- One platform for linking multiple accounts, apps, services on neobank platform

Challenges and shortfalls

- Narrow range of product offerings, so car loans, home mortgages or business services are not available
- The main setback of neobanks is that they can not offer in branch service, which some people prefer when dealing with large loans, such as a mortgage

- Operational inexperience vis-à-vis traditional banks
- Regulatory and compliance – subject to the same set of supervisory requirements applicable to conventional banks

Advantages of neobanks over traditional banks for MSMEs

1. **Customer experience:** Neobanks do not offer novel banking services. Their services are similar to those of traditional banks, but with a hyper-enhanced and personalised customer experience. Neobanks have significantly leaner business models and superior technologies at their disposal, compared to traditional banks, providing ease and efficacy in services, such as seamless account creation, round-the-clock customer service supported by chatbots, near real-time cross-border payments, and artificial intelligence (AI) and machine learning (ML)-enabled automated accounting, budgeting and treasury services.
2. **Automated services:** Apart from providing primary banking services, neobanks offer automated and near real-time accounting and reconciliation services for bookkeeping, balance sheets, profit and loss statements and taxation services such as GST-compliant invoicing, tax payments record keeping and reconciliation, on mobile platforms for affordable costs.
3. **Transparency:** Neobanks are transparent and strive to provide real-time notifications and explanations of any charges and penalties incurred by the customer.
4. **Easy-to-use APIs:** Most neobanks provide easy-to-deploy and operate APIs to integrate banking into the accounting and payment infrastructure.
5. **Deep insights:** Most neobanks provide dashboard solutions with highly enhanced interfaces and easy to understand and valuable insights for services such as payments, payables and receivables, and bank statements. It is beneficial for businesses with significant expenditure and appropriate number of employees, to be provided with such insights, reduce expenditure and boost productivity and revenue.

In India, a neobank is catering its services and solutions for SMEs and playing a leading role in aiding small businesses in managing their finances conveniently and comprehensively. The neobank provides a platform that helps such businesses send and receive payments, automate their accounting and reconciliation, generate and track compliance of invoices with direct and indirect tax laws, and access third-party banking and business applications from its platform, allowing multiple businesses to simultaneously manage all their banking needs under a single platform.

Regulatory considerations for neobanks in India

In India, virtual banking licences are still not granted, though there are foreign national banks offering digital-only products through their Indian subsidiaries. The Reserve Bank of India (RBI) remains stern in prioritising banks' physical presence, and lately reinforced the requirement for digital banking service providers to have some physical presence.

The significance of brick-and-mortar bank branches is to serve customers and redress their disputes and grievances in person. In its 2014 Guidelines for Licensing of Payments Banks, the RBI had highlighted that it does not see payment banks becoming "virtual" or branchless banks.

Presently, neobanks in India are addressing the regulatory predicament by outsourcing their banking responsibilities to those with licences, creating strategic partnerships with traditional banks and providing amplified services on behalf of existing ones. This model is already being used worldwide by some of the biggest names in neobanking.

As part of their business strategy and to overcome regulatory hindrances, neobanks partner with traditional banks and offer business and consumer banking services. For the end customer, financial and banking services are offered by the neobank, but from a regulatory perspective, monetary transactions are managed by their partner banks.

Road ahead

Attributes and offerings like accessibility, cost-effective multiple banking and financial functionalities under one umbrella, and personalisation are some of the driving factors for neobanks globally. Secondly, FinTechs are building niche solutions focusing on blue-collar workers and the underserved needs of thin-file MSMEs, which is the way forward.

Neobanking can work as an extension of measures undertaken to solve the challenges of financial inclusion and bundling banking services with other financial services—for example, services like opening of bank accounts for immigrants, facilitated through new onboarding procedures not based on traditional documentation of identification. With narrow targets initially, neobanks could expand by adding more functionalities and services over time.

Although digital and neobanks are gathering momentum, most are yet to show sustained profitability. Nevertheless, they have great potential to be disruptors in banking and financial services, and the key towards becoming profitable entities would be to convince traditional banks to invest in new-age technology and re-engineer processes to provide seamless and swift customer experiences.

With competition mounting among traditional banks, new-age FinTechs, technology firms and non-banking entrants, it is yet to be seen whether the market is deep enough for neobanks to grow sustainably and equitably. How neobanks manage vital impediments in terms of regulation and compliance, data and cyber security, seamless API integration and expansion of products and services will be the fundamental determinants of their success.

Assessment of the progress of digitisation from cash to electronic

The digital revolution is taking the world by storm and no other area has witnessed such metamorphosis as payment and settlement systems, resulting in a myriad of digital options for the common man. Consumers now have a range of options to choose from when selecting a payment method to complete a transaction. They make this selection based on the value they attribute to a payment method in a certain situation

as each payment mode has its own use and purpose. In India, like in many parts of the world, cash is the well-established and widely used payment instrument. It is, however, reassuring that non-cash payments, especially those using electronic or digital modes are rapidly increasing.

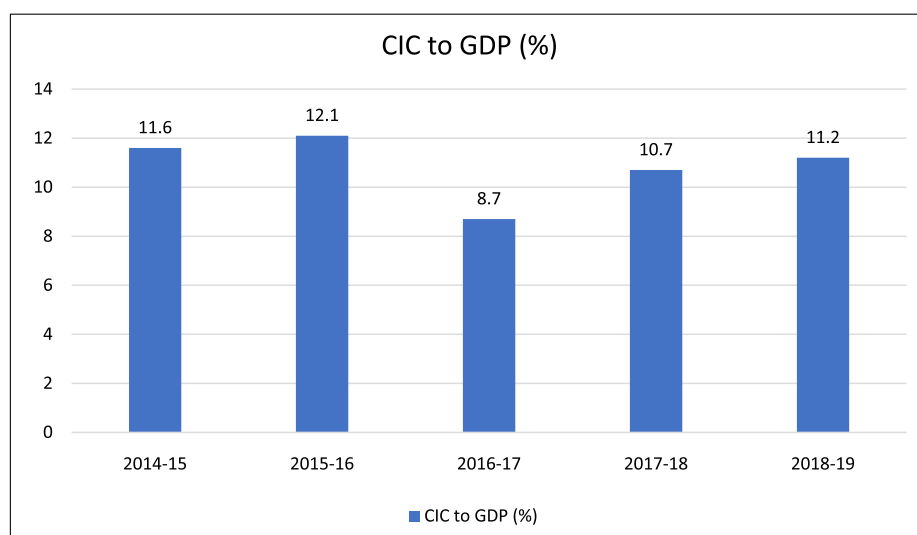
Cash is all pervasive, easy to use and store and offers great convenience. The challenge in assessing the progress of a country from cash to digitisation arises from the fact that, given the anonymity of cash transactions, it is very difficult to establish the exact volume of transactions conducted in cash, and consequently the value of such transactions.

While there is no accurate estimate of the cash payments, two key indicators, viz., the value of Currency in Circulation (CIC) versus Gross Domestic Product (GDP) and the value of ATM withdrawals that take place across the country, can be used for this purpose.

a) Currency in circulation

The amount of CIC is related to the use of cash as a payment instrument since one of the major forces of demand for currency is its use for making payments. The CIC across the country increased at a Compounded Annual Growth Rate (CAGR) of 10.2% over the past 5 years, i.e., between the financial years (FY) 2014-15 and 2018-19.

It is assumed that having high CIC relative to GDP indicates that cash is highly preferred as a payment instrument. Based on this assumption, India continues to have a strong bias for cash payments. Demonetisation and an active growth in GDP brought down the cash in circulation as a percentage of GDP to 8.70% in 2016-17. This increased to 10.70% in 2017-18 and to 11.2% in 2018-19 which, however, is less than the pre-demonetisation level of 12.1% in 2015-16. The rate of increase is lower indicating a perceptible shift away from cash.

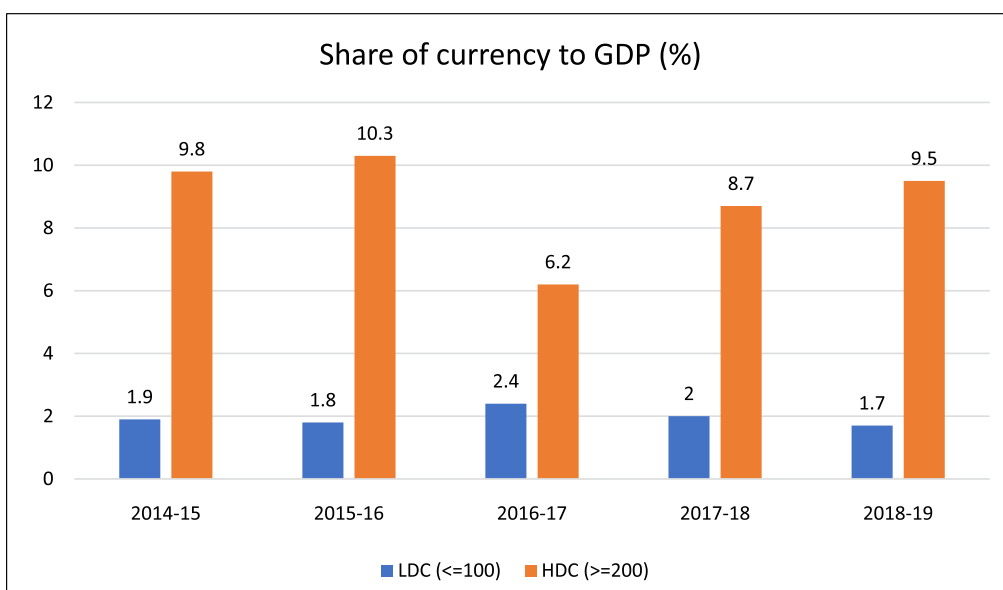
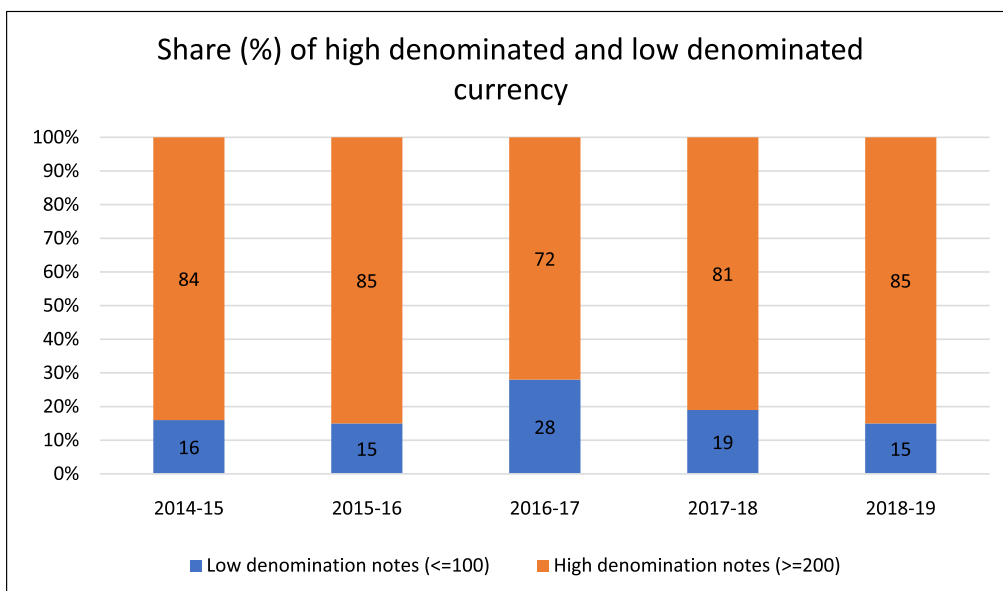


The notes in circulation (CIC minus coins in circulation) increased at an average rate of 14% between October 2014 and October 2016. Assuming the same growth rate, notes in circulation (NIC) would have been INR 26,04,953 crore in October 2019. NIC, however, was INR 22,31,090 crore, indicating that digitisation and reduction in cash usage helped reduce NIC by over INR 3.5 lakh crore.

While India's CIC levels reduced in 2018 as compared to 2014, other countries, with the exception of Argentina, China, Indonesia, Russia, South Africa, Sweden and Turkey, had increasing cash levels. Although cash is deeply embedded in the payment systems in India, planned efforts post-demonetisation have shown a marked shift from cash to digital payments.

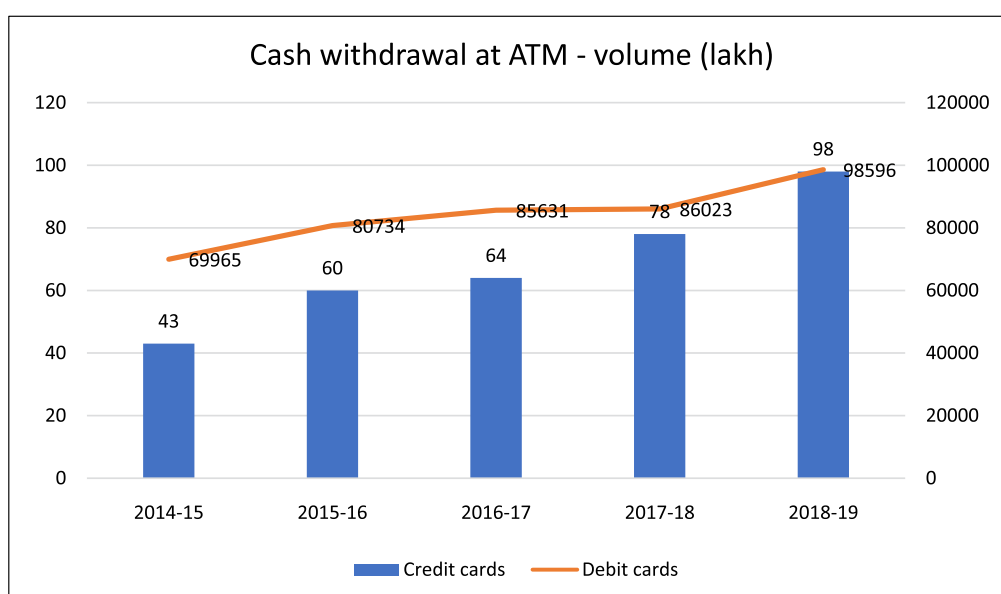
b) Share of high value denominated currency and low value denominated currency

Cash, like other forms of money, is used both as a means of payment and as a store of value. A common way to try and disentangle the two types of cash demand is to assume that high value denomination notes are mostly held as a store of value and low denomination for payments. Over the past 5 years, the demand for high value denominated currency has outpaced low value denominated currency which may indicate that cash is increasingly used as a store of value and less for making payments.



c) Cash withdrawals from ATMs

The cash withdrawals from ATMs increased over the past 5 years. India is next only to China in terms of the cash withdrawals from ATMs. However, the percentage of cash withdrawals to GDP has been constant in India at around 17%. In addition, with a CAGR of 9% in terms of volume and 10% in terms of value, the growth has been slow when compared to digital payment transactions (which grew at a CAGR of 61% and 19% in terms of volume and value, respectively), indicating a shift towards digitisation. Further, the infrastructure for cash withdrawal, i.e., ATMs has grown at a low pace (CAGR of 4% during the past 5 years).



Estimates of cash payments

Some surveys/ reports have attempted to measure the level of cash payments in the economy. Although many of the reports are only estimates, they do provide some indication of cash usage and digitisation in the country as also across the world. According to these estimates, cash still reigns supreme, not only in India, but in many other jurisdictions as well. Payments are, however, quickly expanding to include online payment channels. A report by Worldpay revealed that digital payment usage is increasing in the Asia Pacific region and estimated that the e-commerce market in the region will grow by a CAGR of 12 percent between 2016 and 2021, with India being one of the key drivers of this growth.

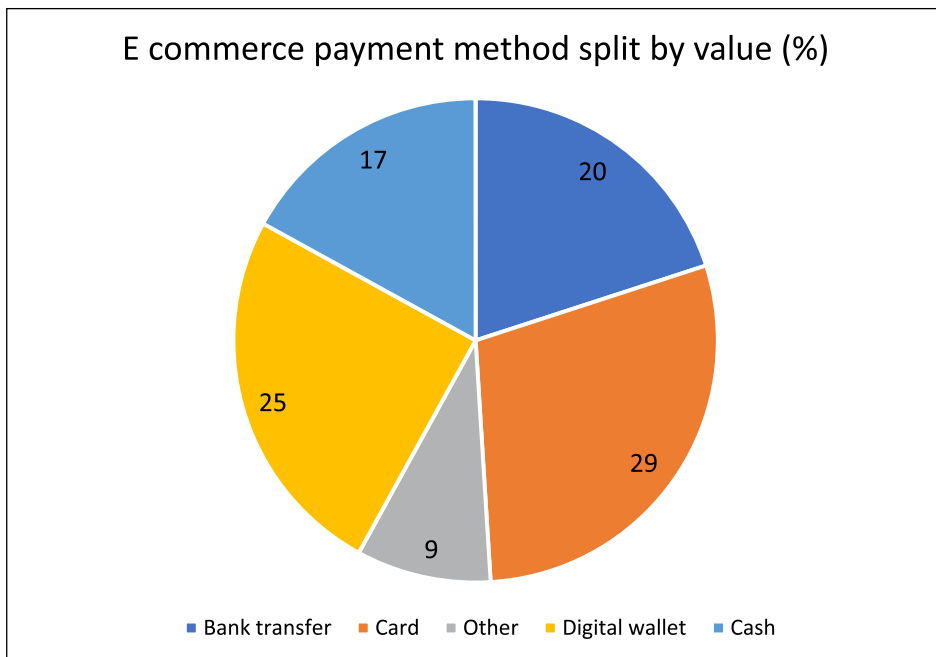
a) The Pymnts Global Cash Index for Asia Pacific

The Pymnts Global Cash Index for Asia Pacific published in June 2018, computed the “cash share of the wallet”, as the amount of cash withdrawn in a country as a share of its annual GDP, to determine the popularity of physical cash exchange in comparison to that of alternative payment methods. India was observed to be highly dependent on cash.

Country	Population (mn)	GDP (USD bn)	Cash propensity (%)	Total cash growth (%)
Australia	24.4	1282.0	11.2	-0.7
China	1382.7	10365.4	35.9	9.2
India	1299.8	2939.5	49.3	10.5
Japan	127.0	5049.4	3.4	-8.5
Korea	51.2	1458.9	4.1	2.1
Singapore	5.6	276.3	16.7	1.6

b) The JP Morgan 2019 Global Payments Trends Report

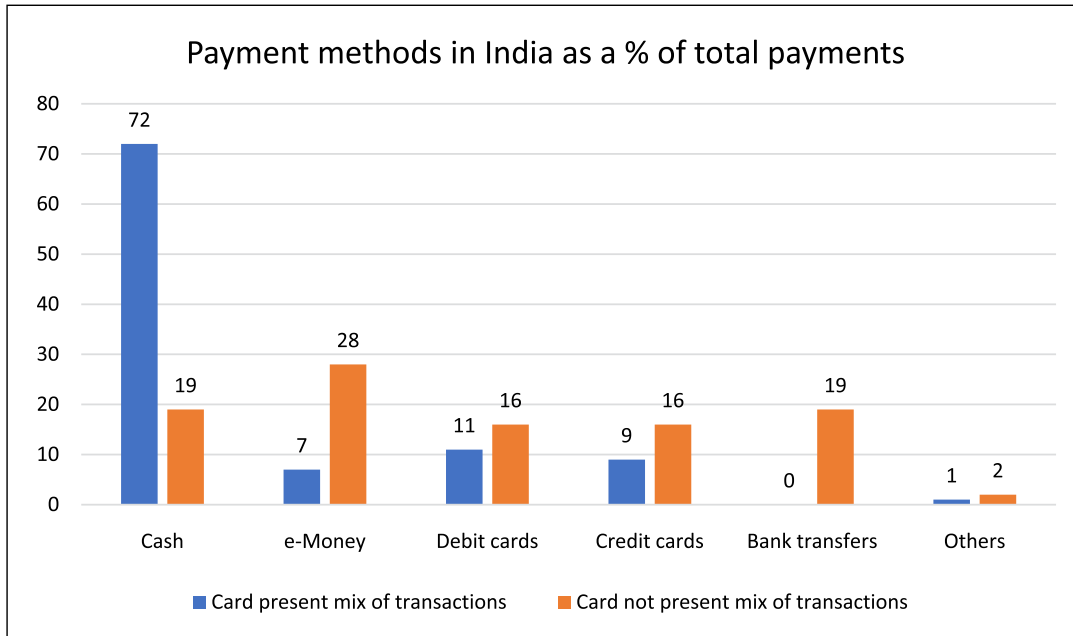
The JP Morgan 2019 Global Payments Trends Report – India Country Insights observed that Indian payments market, historically dominated by cash, is evolving to meet the demands of smartphone led online shopping culture, with cards and digital wallets rising in prominence.



c) The Worldpay Global Payments Report 2018

The Worldpay Global Payments Report 2018 observed that in India, while cash continued to be the primary payment method for point of sale purchases (card present), eMoney dominated the online payments (card not present). The report observed that as internet penetration and the digital economy continues to grow, there will be room for ongoing shift of payment forms.

World over, cards have replaced cash as a mode of making payments, except in traditionally cash denominated jurisdictions like Germany, Italy, Japan and Russia. In India, the shift has been to electronic/digital channels.



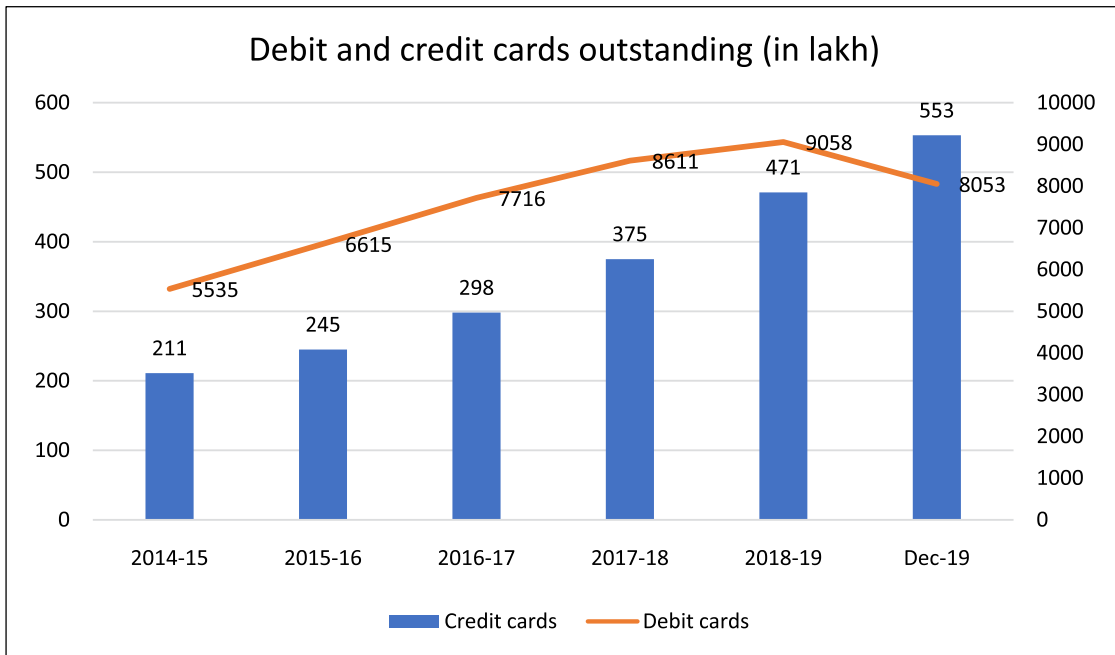
d) Credit Suisse Group AG

According to a report by Credit Suisse Group AG, 72% of India’s consumer transactions take place in cash, double the rate as in China. According to the report, many merchants, especially in rural areas, remain unable or unwilling to accept digital transactions due to network connectivity issues and a reluctance to pay charges for what are often low-value transactions.

Debit and credit cards

In respect of card issuance, during the past 5 years, the number of credit cards issued increased from 211 lakh to over 550 lakh. The same period also witnessed a steep increase in debit cards from 5535 lakh to over 8000 lakh. This was supported by the 2960 lakh Rupay debit cards issued to BSBD account holders. Increase in cards has facilitated growth in both online and physical PoS terminals-based card payments resulting in an increase in digital transactions.

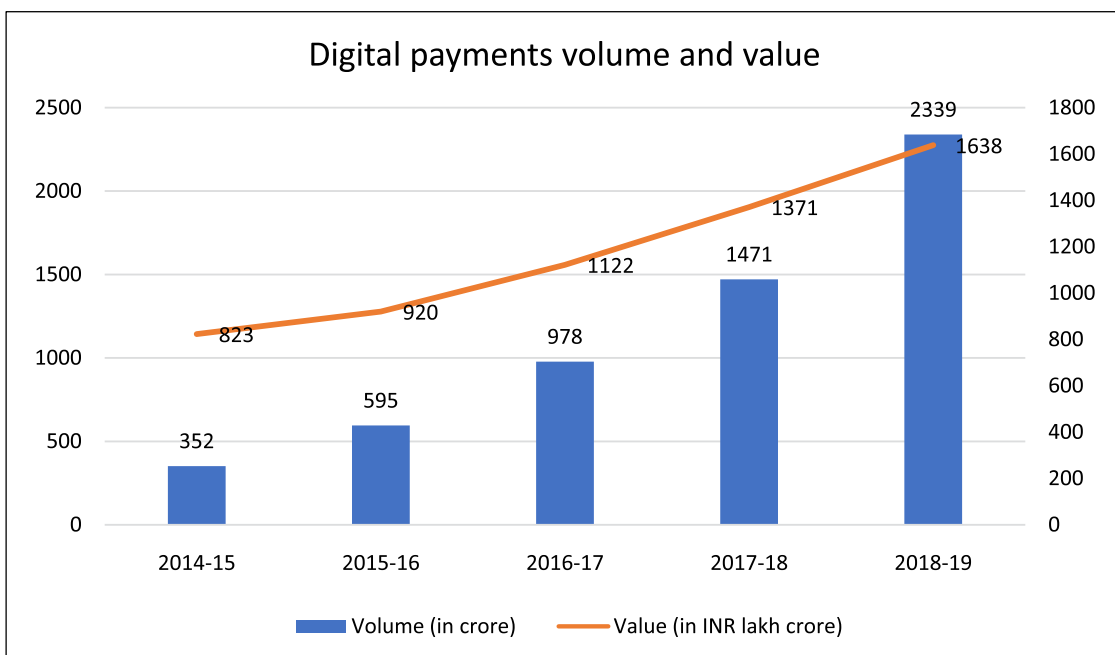
Banks issued new cards to comply with the requirement to convert all existing Magstripe cards to EMV Chip and PIN compliant cards by December 31, 2018 and subsequently removed deactivated cards from their systems, resulting in a drop in debit cards outstanding. The consolidation of public sector banks also contributed to this reduction.



Progress in digitisation

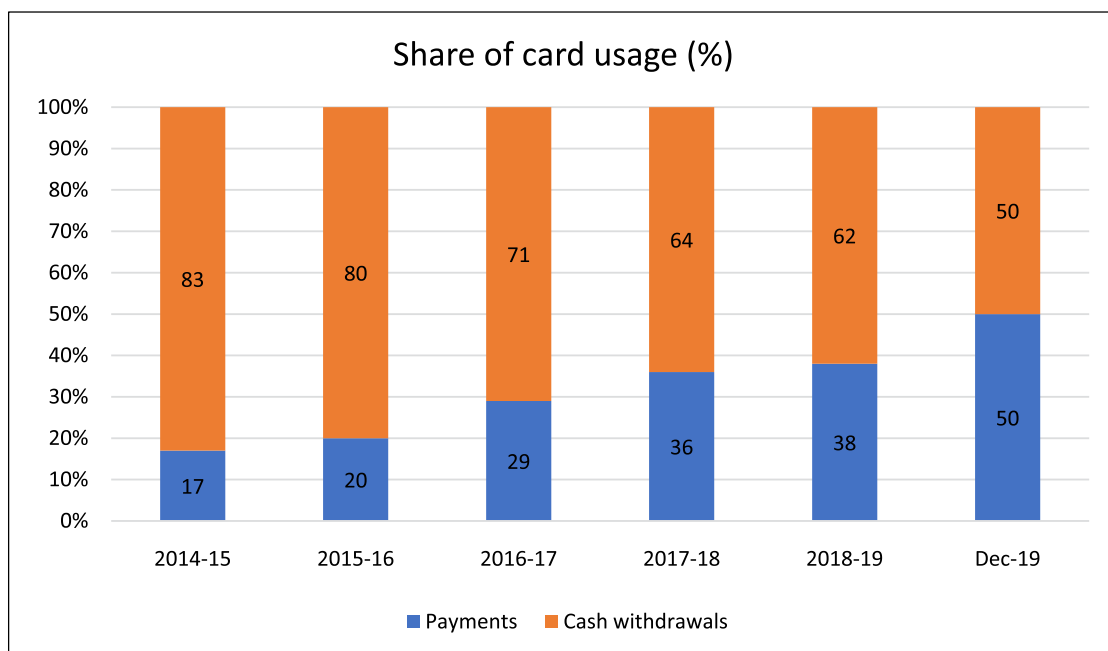
While there is no accurate measure of cash payments in the country, the progress of various digital payments can be measured accurately. Overall, the digital payments in the country have witnessed a CAGR of 61% and 19% in terms of volume and value, respectively over the past 5 years, demonstrating a steep shift towards digital payments.

Within the digital payments, retail electronic payments comprising credit transfers {NEFT, fast payments (IMPS and UPI)} and direct debits (ECS, NACH) have shown a rapid growth at a CAGR of 65% and 42%



in terms of volume and value, respectively. Stored value cash issued in the form of wallets and prepaid cards demonstrated an increased adoption with a CAGR of 96% and 78% in terms of volume and value, respectively.

Debit and credit card based payments registered a CAGR of 44% and 40% in terms of volume and value, respectively. The adoption of card payments has been supported by innovations in the form of contactless payments and tokenisation technologies, contributing to the growth. In addition, the use of cards for payments is increasing vis-a-vis their use for withdrawing cash.





DIGITAL SERVICES

India's digital financial inclusion journey

The expansion in digital financial inclusion in India has been driven by significant innovation in both the public and private sectors. One of the key drivers has been government policy that explicitly prioritizes access to the banking system as a means for inclusive growth. Under the Government of India's Pradhan Mantri Jan-Dhan Yojana (PMJDY) scheme, bank accounts have been opened for the majority of Indian citizens and these accounts have become the default channel for delivery of government payments, such as through the Direct Benefit Transfer (DBT) system. To achieve such rapid scale in account opening, the government has taken a big bet on technology. Growing internet coverage and smartphone penetration means that the future of banking is expected to be digital.

The Government aims to link bank accounts to biometric identification (through Aadhar) and to mobile numbers in order to leapfrog more traditional methods of financial access. Through licensing new tiers of financial institutions, government has pushed a differentiated banking model in which companies like Mobile Network Operators (MNOs) and fintechs can provide banking services under a Payment Bank license, and microfinance institutions (MFIs) are encouraged to leverage technology to align with the market and as an incentive for their growth into Small Finance Banks. While state-owned enterprises (such as State Bank of India, which opened a third of PMJDY accounts) continue to play a key role in the direct provision of banking services across India, a major reinforcing agent has been Government push in

the financial inclusion agenda. In a technology-led model, the government has also prioritized the creation of enabling infrastructure, such as digital identification and payments technology, on which the private sector can build.

In the process, the Government has introduced enabling infrastructure for financial inclusion, including Aadhaar and Aadhaar based identification and KYC measure, Domestic alternative to Visa and MasterCard – RuPay, UPI, etc. These features have been described in detail as follows:

Aadhaar and the India Stack

Between 2014 and 2017, the proportion of the adult Indian population with an account at a financial institution increased from 52.8% to 79.8%. Over the course of three years, this represents over three hundred million people brought into the formal financial sector. The PMJDY, a drive to provide all Indians with a bank account, was the cornerstone of this policy agenda. At the same time, the financial inclusion push intersected with two other major policies of the Government: Digital India (driven by the rapid expansion in mobile phone and internet coverage) and Aadhaar (the provision of a unique digital ID for every citizen). The troika of PMJDY, Aadhaar and Mobile, summarizing the drive to digitally-led financial inclusion, was called the J-A-M trinity.

The second pillar of the government's J-A-M trinity is Aadhaar, the national ID scheme that has provided the vast bulk of the Indian population with a unique biometric-linked 12-digit identification number that can be used as proof of identity.

The growth of Aadhaar has been closely linked with PMJDY, as Aadhaar number became an important identification agent for audience with minimal identification documentation required for account opening. Between 2016-17 and 2017-18, the number of e-KYC verifications through Aadhaar increased from 48 million to 138 million. As of August 2018, more than 83% operative PMJDY accounts (except states of Assam, Meghalaya and Jammu and Kashmir) are Aadhaar seeded, indicating the role Aadhaar has played in allowing digitally enabled financial services to rapidly achieve scale.

Aadhaar has been credited in bringing down the customer acquisition cost from around INR 100 per customer to less than INR 10, implying a strong business case for serving lower-income and remote customers and opened up potential for more commercial entities to enter these markets. Aadhaar laid the foundation for a wider government initiative to lay foundational infrastructure upon which the private sector to push forward on the digital financial inclusion mission. According to one development sector expert, we are coming to the end of a phase of government-led financial inclusion and moving into a phase of private sector-led financial inclusion in which government's role shifts from direct delivery to infrastructure provision. The linkage of a person's mobile phone number with their Aadhaar number and their bank account completes the J-A-M trinity and provides the foundational digital infrastructure not just for identification and e-KYC but for a broader array of personalized digital services and use cases. The India Stack, an initiative of iSPIRT21, has brought these use cases together by providing application programming interface (APIs) that allow customers to store means of identity (e.g., Aadhaar) and consent (e.g., e-signature) in a digital locker, opening up the opportunity for financial service providers to deliver

services digitally, remotely and at minimal cost riding on these established digital rails. This technology stack, which significantly reduces the costs of customer acquisition and servicing, forms the basis for a range of services launched by both public and private sectors.



Unified Payments Interface (UPI)

The Unified Payments Interface (UPI), launched by National Payments Council of India (NPCI) in April 2016, has been a major factor in the push for digital payments in India since 2014. The platform provides low-cost, large scale payments interoperability, allowing users to easily make payments directly from their bank accounts using only a Virtual Payment Address (VPA) linked to the recipient's bank account and phone number. Since UPI began to gain traction towards the end of 2017, it has experienced hockey stick growth – in the year from September 2017, average month-on-month growth in transaction volumes was 33%. In September 2018 UPI overtook debit cards and pre-paid instruments in terms of the monthly volume of transactions passing through the platform. Between January 2018 and January 2019, the volume of transactions increased by 450%.

According to experts, as transaction volumes began to grow rapidly towards the end of 2017, users started to use UPI for smaller quantum of transactions and more of retail usage. Through 2018, the average UPI transaction size has plateaued at around INR 1500 a similar level to debit cards, while the total value of all transactions has climbed significantly. This may imply that UPI is becoming the preferred digital transaction method even for relatively small payments, as people substitute away from debit cards and other payment types. Key factors indicating this could be ease of transaction and increasing mobile internet penetration.

RuPay

In order to facilitate usage of newly opened PMJDY bank accounts, customers were issued with RuPay debit cards to allow for ATM withdrawals and POS (point of sale) payments. RuPay was previously launched

by NPCI in 2012 as a domestic alternative to Visa and MasterCard as an open loop, interoperable, all-purpose payment system. Of the 330 million people with PMJDY scheme bank accounts, 79% have also been issued with a RuPay card. This represents 260 million people provided – likely for the first time – access to a tool for accessing and spending their money without needing to handle cash. However, there is limited evidence of RuPay successfully driving usage of PMJDY accounts. A study by MicroSave found that 53% of customers had not received their RuPay card and that many RuPay cards were lying unused and unproductive at bank branches or Bank Mitra (banking agent) locations. This was mainly due to the difficulty of travelling to a branch to collect a card and staff capacity in rural branches. Where cards were received by customers, problems often ensued of not receiving PINs or insufficient knowledge of how to activate and use the cards. According to Global Findex data, although debit card ownership in India increased from 22% in 2014 to 33% in 2017, the proportion of people who had used a debit card to make a purchase in the past year increased only 1%, from 11% to 12%.

Account Dormancy

One widely reported challenge of PMJDY has been the issue of account dormancy and zero-balance accounts. The government stopped reporting the official levels of zero-balance accounts at the end of 2016 (when the figure stood at 24.1%). One study, tracking deposits and withdrawals from banks accounts over six months from account opening found that 81% of customers did not make a deposit and only 7% made two or more deposit transactions. The proportion of users making more than one inward or outward remittance per month was less than 1%. However, experts found that usage grew with familiarity over time, a finding supported by a longer panel survey that found that over time, PMJDY account holders were more likely to use their accounts and increase cash balances. Government DBT payments explained part but not all of this usage. The study found that the previously unbanked population learn by doing and increased usage of accounts for transactions, liquidity management, and increasingly, balance accumulation. As of end November 2018, the average balance in a PMJDY account was Rs.2525 (US\$36 – as of December 2018, Rs.70 = US\$1). Thus, it implied that the growth rate of usage of financial services did not grow at a rate as during 2014-17 period. According to Global Findex data, the proportion of the adult population who made a digital payment in 2017 was 20%, up from 16% in 2014. Borrowing from a financial institution increased from 6% to 7%.

However, the proportion of those with an account at a financial institution who had made no deposits nor withdrawals in 2017 increased from 42% to 48%. Indicating that, despite the progress made since 2014, half of those with access to a bank account are not using the account at all. Industry experts provide a range of reasons for why so many accounts remain dormant. The weakness of last mile infrastructure appears to be one major reason. Cash-in-cash-out (CICO) agents are not sufficiently widespread or located where they would need to be to facilitate regular transactions. While many issues on the supply side have been overcome through the PMJDY initiative, less attention has been paid to the demand side, around financial literacy and building understanding and trust in the system. Behavioural change is complex and takes time. There is often a strong status quo bias towards cash hence a lack of interest in other financial mediums (and where people do have excess cash to save, it is common for it to be invested in jewellery or livestock, not put in a savings account). One further suggestion is that in some cases – particularly for the poorest populations – the value proposition of banking is absent as incomes








may be too low or because the informal mechanisms they are used to remain preferable. There are many reasons that people do not use their bank accounts even if they are available and have access, including, but not limited to: their level of financial literacy; cultural reasons; not having enough money to save; or not having yet made a permanent behaviour shift. However, the assumption that poor people want a bank account has not been empirically tested.



Impact on payment systems owing to COVID-19

Payment systems have demonstrated that they are dependable and durable and continue to command a high level of confidence from the general population. However, closure of businesses and the lockdown have resulted in lower transaction volumes overall. In this section, we look at the relative impact of the COVID-19 pandemic on various payment categories.

Payment category		Relative impact	Remarks
Issuance	Cards	↑	Risk of transmission of the virus through the exchange of physical currency will boost online card transactions.
	Wallets	↑	Wallets will also see increased traction for P2P transfers, bill payments and P2M payments for essential services owing to the lockdown and aversion to exchanging cash. However, some wallet players have increased their fees for merchants and consumers, leading to merchants not accepting their wallets for transactions.
	Bank Accounts	↑	Fund transfers to/from bank accounts will likely see an uptick as people substitute cash with digital transfers.

Acquiring	ATM		Transactions at ATMs will decrease as a result of the lockdown being enforced. Not much cash will be required compared to earlier.
	PoS		PoS terminals at stores selling essential items will see an uptick in transactions, while those at most other establishments will see a decline.
	Payment gateways		Payment gateways will see an increase in volumes as transactions go online. They can also tie up with small stores selling essentials who are currently seeking to establish an online presence
Payment gateway	UPI		UPI is primarily driven by P2P and P2M payment transactions. With fears of virus transmission through cash, P2M UPI transactions for essential services (including QR based payments) will see an increase.
	IMPS		The IMPS facility will see relatively increased activity as fund transfers shift to digital means.
	BBPS		With no physical avenues to pay bills, people are adopting BBPS, leading to a relatively higher number of transactions.
	NETC		The NETC programme, which facilitates FASTag toll payments, will be adversely affected due to restrictions on travelling.

Source: <https://www.pwc.in/assets/pdfs/consulting/financial-services/fintech/point-of-view/pov-downloads/impact-of-the-covid-19-outbreak-on-digital-payments.pdf>

Industry ventures

Payments Banks

The Mor Committee recommendations on launching payment banks, today stands as one of very important pushes for financial inclusion program by Government. The aim was to bring non-traditional players – telecoms companies, fintechs, industrialists and the postal service – into the formal banking sector to leverage their existing networks to further digital financial inclusion through payments and small savings. Services were to be targeted at under-served groups such as low-income households, migrant workers and micro and small businesses. Payment Banks can facilitate digital payments and savings up to INR 1 lakh (roughly \$1,400) but cannot lend. Of the eleven licenses that were issued for payments banks three were surrendered due to difficulties in building an effective business model, and a number of challenges have hampered those that have launched.

Microfinance and Small Finance Banks

Small finance banks were specifically developed with a view of increasing the penetration of digitization of financial services, with a last mile connect. The guidelines for licensing of SFBs stated that: the objectives of setting up of small finance banks will be for furthering financial inclusion by

- (i) Provision of savings vehicles primarily to unserved and underserved sections of the population, and
- (ii) Supply of credit to small business units; small and marginal farmers; micro and small industries; and other unorganized sector entities, through high technology-low cost operations.

This new tier of bank provided a path for successful non-bank financing companies (NBFCs), mostly MFIs, to grow into the banking regulatory framework and expand into new markets. Licenses were provided to ten institutions, geographically spread across the country. In addition to these original ten SFBs, as of September 2018 RBI began to allow voluntary transition of Urban Cooperative Banks (UCBs) into SFBs. SFBs are mandated to provide 75% of loans below INR25,00,000 (~USD 35,000). SFBs have yet to make a significant contribution to financial services to excluded groups and it may be too early to assess the success of the policy initiative. The total number of loan accounts as of June 2018 was 17.6 million, up from 17.3 million a year earlier and 15.8 million in 2016. As most microfinance loan repayments are made in cash, the sector took a major hit at demonetization.

While SFBs have slowly grown their loan books, it has been hard to build the liabilities side of their balance sheets and despite now having banking licenses, the vast majority of lending remains funded by wholesale borrowing. Deposit mobilization has struggled to grow as SFBs encounter common Challenges, including that some people do not have spare funds to save, and that those who do have been accustomed to saving at the large state-backed banking institutions. Part of the slow growth of SFBs can be explained by the ongoing transformations that they are undertaking as they transition from traditional microfinance models to a broader selection of banking services to meet the needs of specific market segments. Customers who are familiar with microfinance approaches are unaccustomed to more formalized banking products and it takes time to change behaviours. Investment in technology is fundamental to the transformation of SFBs. Over the longer term this investment is likely to improve internal processes, risk management, operational efficiency and origination for individual lending. Through the lending process, going digital can enable the tracking of digital footprints to improve customer targeting, reduce cost of customer acquisition, improve opportunities for upsell and increased collection efficiency. However, the reality faced by SFBs is that the status quo is characterized by face to face interaction, repayments made in cash (even though loans are paid out digitally, most get cashed out immediately), poor connectivity and hence a long road towards digital transformation.

Fintech

Fintech companies have been at the forefront of the growth in digital payments in India. These include payment companies that facilitate P2P and retail payments through mobile wallets or UPI, such as Paytm, PhonePe, PayU, MobiKwik and FreeCharge, as well as technology companies like Pine Labs and Mswipe who provide hardware and POS devices for digital payments. Pre-paid wallets provided by

many of these payment fintechs were some of the major beneficiaries of demonetization. Scarcity of cash led to usage of digital means on, for even small financial transactions. Between October 2016 and January 2017, the volume of transactions through pre-paid instruments (PPIs) more than doubled (from 127m to 296m). Growth has since tailed off, in part cannibalized by the growth in UPI transactions. The foundational digital infrastructure laid by Aadhaar and the India Stack has created the business case for many of these growing fintechs. New smartphone users and people exploring digital payments for the first time can be signed up at minimal costs based on their digital identities. For a number offintechs, access to the India Stack is fundamental to their business models. Fintechs have also been able to grow in a relatively benign regulatory environment.

The growth of India's payments fintechs has been linked inextricably with the emergence of e-commerce in the country. PhonePe was acquired by Flipkart in April 2016 and FreeCharge was bought by Snapdeal in April 2015 (and later sold to Axis Bank). Alibaba, one of China's largest e-commerce platforms, has held a significant stake in Paytm since 2015, to add to its previous investment in Snapdeal. Paytm since added an e-commerce platform to its payments app. Meanwhile, Amazon, which has grown to be the second largest e-commerce company in India, has launched its own digital payments service and, by offering customers the chance to pre-load cash to their Amazon accounts as well as monthly instalments on Amazon purchases, is also offering quasi-banking services.

There is intense competition in the Indian fintech space, however, the competition tends to be focused on customers who are urban, literate and relatively wealthy. Many of these emerging fintech business models require access to a smartphone and an internet connection, as well as ability to transact in English or Hindi. To date, few fintechs have focused on low-income populations and fewer still specifically on financial inclusion – bringing services to people previously under-served by the financial system.

International technology companies

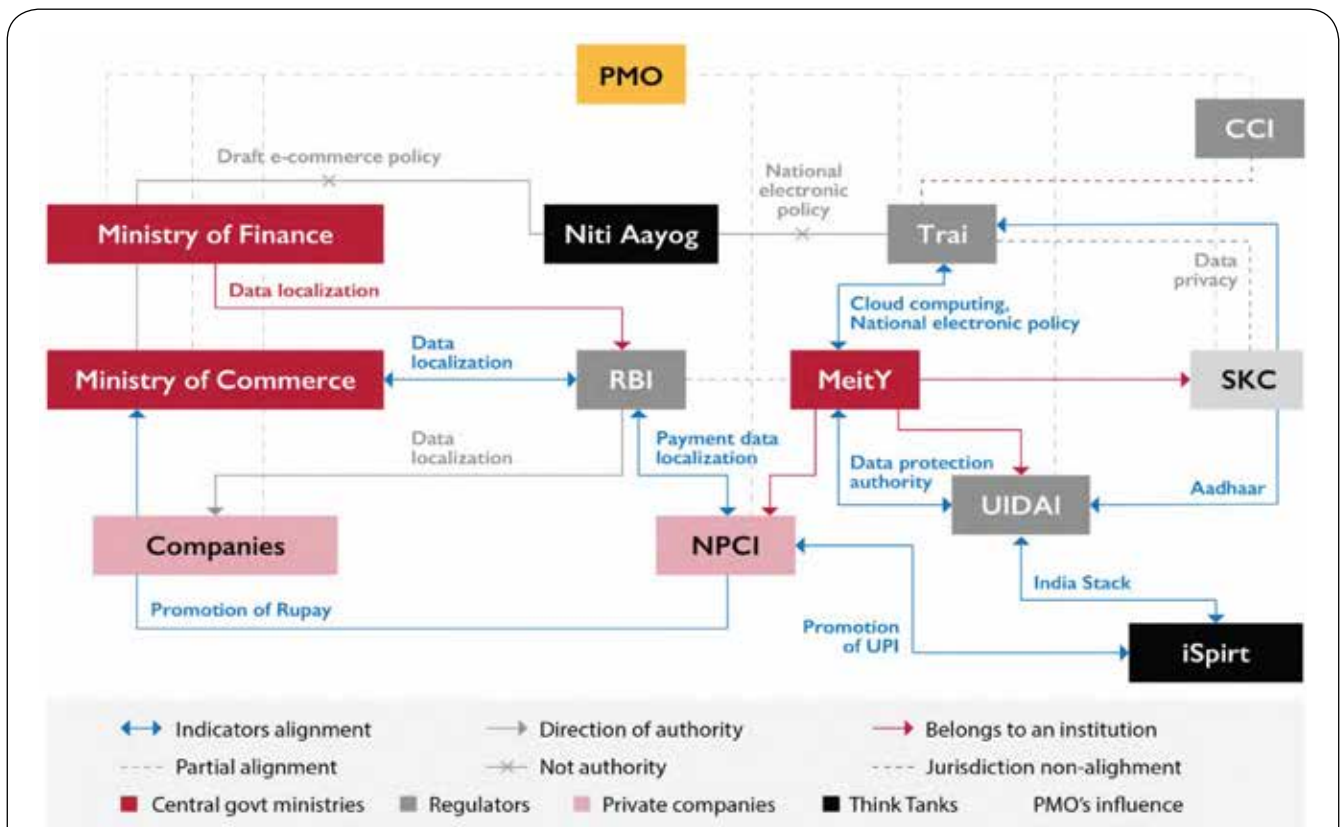
In addition to Amazon, many international technology companies have entered India and are hopeful of growth of digital payments in India. This is in part a response to the way that the internet is manifesting itself for the new generation of Indians coming online for the first time. For them, access to the internet is overwhelmingly mobile (rather than computer-based). An emerging wave of young generation of Indians is also a contributing factor to this increase in surge of e-commerce. In terms of access points, for a majority of first time internet users, Facebook is the first port of call for news and WhatsApp for messaging. This could have potentially huge implications for digital finance growth. Many of these large platforms have already moved into the digital payments space, building on top of UPI. Facebook and Google have already launched payment products in India (WhatsApp Pay and Google Pay, previously called Tez) and through its investment in Paytm, Alibaba is also active. The nature of network effects, as well as the existing comfort with these platforms puts these companies in a strong position to grow their payments business exponentially.

Regulatory framework for digitization of financial services

The regulatory environment in India has been of an evolving nature and has adopted a conservative approach. Despite the institutional labyrinth, the regulatory and Government focus has been on broadbasing the growth of the sector. As mapped out in the diagram below, there are a number of government institutions with an interest in the digital payments space – these include:

- RBI, which is responsible for regulating payments and banks and for overall financial stability
- Ministry of Finance (in particular the Department of Financial Services), which has traditionally run the government’s financial inclusion programs and is responsible for PMJDY
- NITI Aayog, the government’s strategy think-tank which chaired a government committee on digital payments and published a 2018 white paper on the subject
- TRAI, the communications regulator which advises on data, KYC and digital payment systems
- MeitY, the Ministry of Electronics and Information Technology which coordinates the government’s Digital India initiative

The following diagram maps out some of the key players and relationships that exists between institutions in the digital payments ecosystem.



Source: <https://www.fhi360.org/sites/default/files/media/documents/resource-mstar-india-digital-financial-inclusion-report.pdf>

Digital services during COVID-19

The ripples of near standstill of economic activity during the COVID lockdown have been felt across India. As economic turmoil persists and consumers cut back on discretionary consumption, especially credit start-ups, continue to face stress in the medium term. Major credit start-ups have moved their focus on improving collections in an appropriate manner, incentivising borrowers to repay their loans while propelling the lenders' efforts to raise fresh lines of capital to serve more borrowers. The RBI has taken steps to ensure availability of liquidity in the system through its targeted long term repo operations and by inducing banks to lend to more agile non-bank lenders. How banks utilize this fresh liquidity to ensure financial stability of their ecosystem partners will be a critical component of financial sector recovery.



In addition, to core financial services offerings, digital fintech platforms have leveraged their delivery mechanisms to meet consumer needs during this challenging time. For instance, as demand for groceries and essential items has increased, mobile wallets have enabled virtual stores on their mobile app to enable local businesses to sell products online. Bangalore-based start-up Niki is leveraging voice chat in local vernacular languages including Tamil and Gujarati for its users in underserved Tier 2-3 cities enabling Indians to conduct otherwise-offline household transactions digitally during the lockdown, as well as sharing health information from local state authorities.

What's coming is a defining shift in Indian consumer behaviour as users develop new habits from paying cash at a local kirana shop to using a low-data app through their phone to order from the same store, who now can manage its operations on a mobile phone.

Many payment and e-commerce companies have also partnered with insurance firms to provide COVID-19 health insurance to their customers in “sachet size” micro-policies: These uncharted waters present new challenges for India’s insurers. The situation has accelerated healthcare and insurtech start-ups witnessing significant growth as individual customers, small businesses, and employers across India have been introduced to the importance of insurance to keep themselves and their employees financially safe. Insurance penetration in India remains exceptionally low. These digital interventions are a welcome push forward for the industry and consumers.

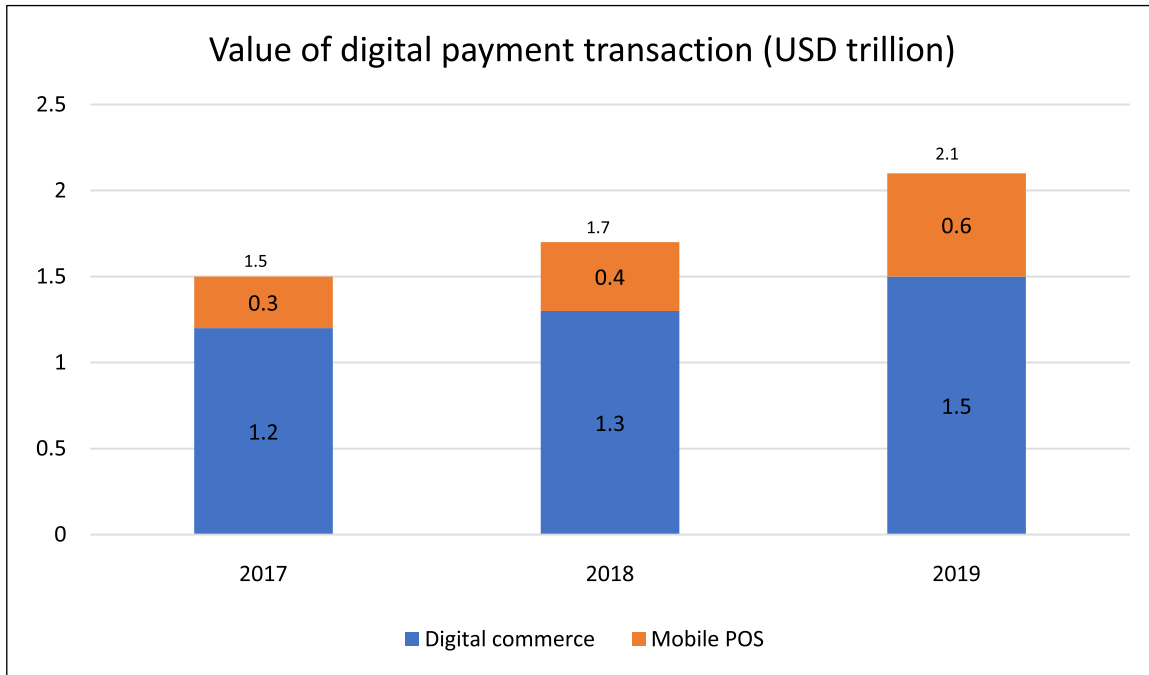


Global statistics

Digital financial services can be harnessed to respond to the COVID-19 shock, and the crisis has the potential to accelerate their development and use.

Digital payments, digital lending, and digital remittances have grown in recent years. Digital payments are noncash transactions processed through digital channels. These include digital commerce and mobile point-of-sale (POS) payments (Digital Payments Report 2019, Statista). Digital commerce refers to consumer transactions directly related to online shopping for products and services that can be made via various payment methods (e.g., credit cards, direct debit, invoice, or online payment providers, such as PayPal and AliPay). Mobile POS payments are transactions processed via “mobile wallets” (e.g., M-Pesa) where the payment is made by a contactless interaction of the mobile application with

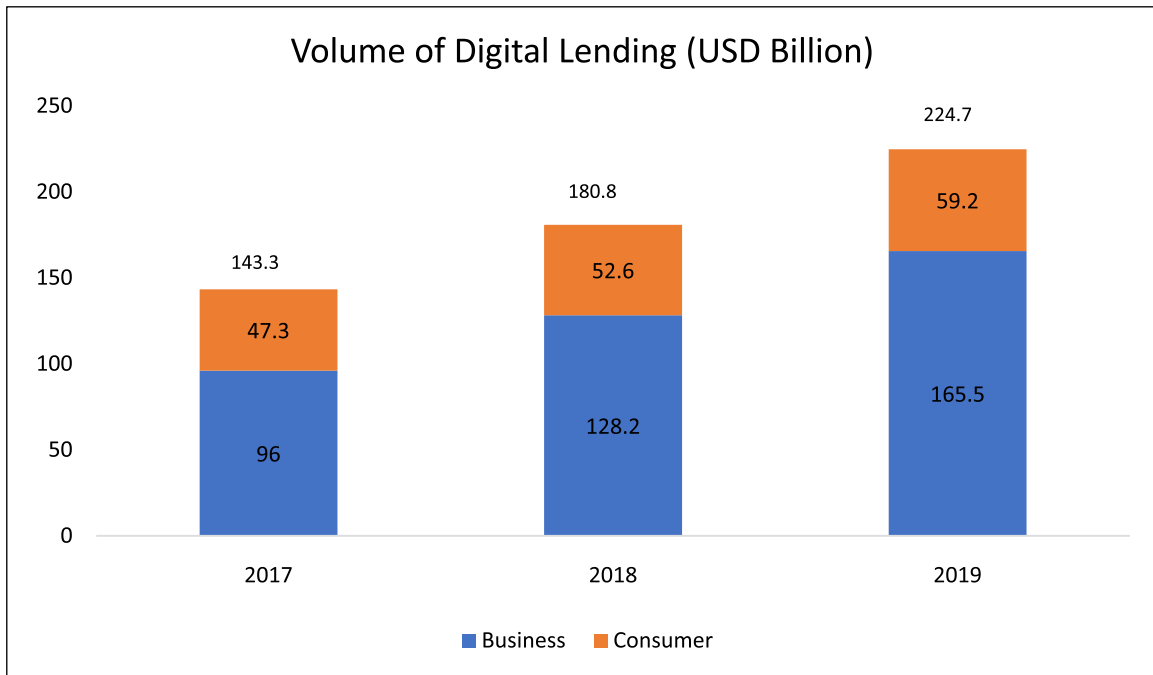
a suitable payment terminal belonging to the merchant. Both digital commerce and mobile payments have increased in EMDEs over the last three years. The numbers are, as expected, largely driven by China and, to a lesser extent, India.



Source: IMF-Digital financial services and pandemic

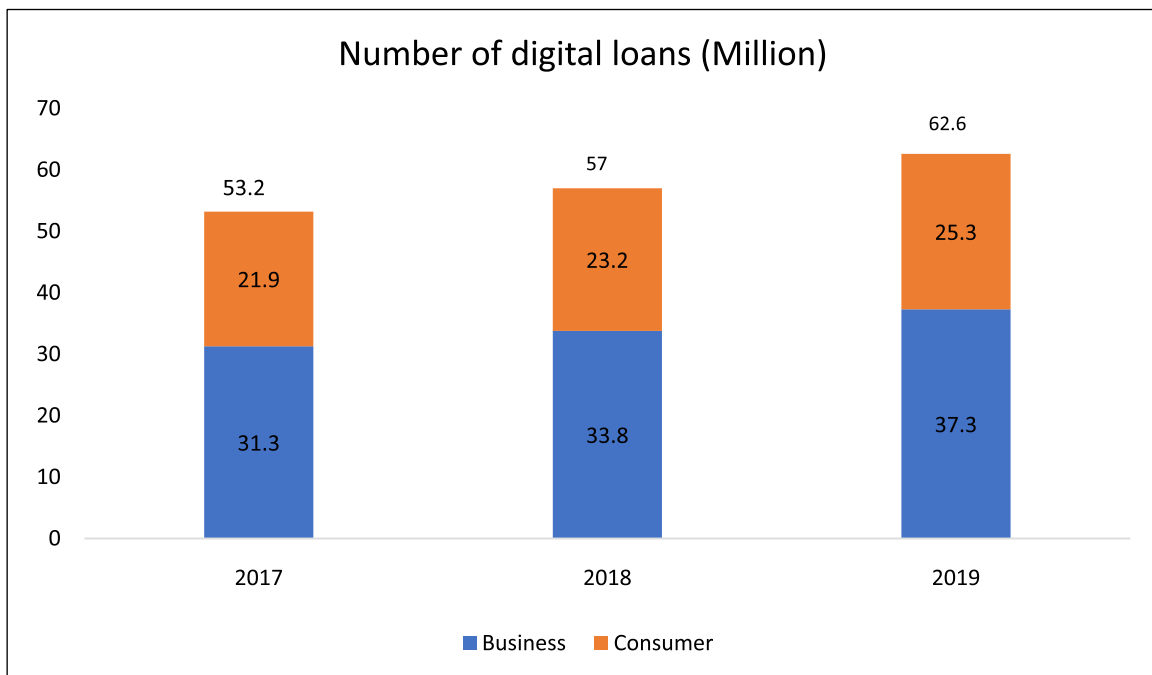
The value of payments associated with digital commerce in EMDEs rose from USD1.2 trillion in 2017 to USD 1.3 trillion in 2018 and reached USD 1.5 trillion in 2019 — an increase of approximately 8 percent and 15 percent, respectively. While the value of mobile POS payments is significantly smaller — USD 613 billion in 2019 — these payments rose by 33 percent between 2017 and 2018 and by 50 percent in 2019, relative to the previous year. In EMDEs the number of digital payment users has also risen since 2017 starting at 3.3 billion that year and reaching almost 4.0 billion (or 64 percent of the population) in 2019. In terms of the breakdown by type of service, in 2019, 2.9 billion users conducted digital commerce transactions and 1.1 billion users conducted mobile POS payments.

Digital lending to MSMEs (i.e., crowd lending) and to individuals (i.e., marketplace or peer-to-peer lending), through private or institutional investors via online platforms, grew by 57 percent from a combined value of USD 143 billion in 2017 to USD 225 billion in 2019. Over this period, business (MSME) lending increased from USD 96 billion to USD 166 billion while consumer lending rose from USD 47 billion in 2017 to USD 59 billion in 2019. In turn, the number of digital loans grew from 53.2 to 62.6 million between 2017 to 2019, with business loans growing from 31.3 to 37.3 million and consumer loans increasing from 21.9 to 25.3 over this period.



Source: IMF-Digital financial services and pandemic

Digital remittances are cross-border money transfers made over the internet by the migrant population. The value of digital remittances (which here include those sent from advanced economies to EMDEs and across EMDEs) has grown by 55 percent between 2017 and 2019. Over this period, the number of users of digital remittances grew from almost 5 to 7 million.



Source: IMF-Digital financial services and pandemic

Global scenario for opportunities from expanding digital financial services during the COVID-19 crisis

This section considers opportunities from the use of digital financial services during the COVID-19 crisis in five areas: payments and transfers by governments, businesses, and households, as well as credit to businesses and households.

Payments and transfers by governments

Several governments already make digital payments and transfers to households and businesses. Government payments to households, commonly referred to as G2P, include payments (or transfers) of tax refunds, subsidies, social programs, salary, stipends, pensions, scholarships, and emergency assistance. According to the 2017 Global Findex Survey, approximately 16 percent of individuals received government payments or transfers digitally during that year. Pre-COVID-19 examples of digitized G2P payments include Brazil's Bolsa Familia Program (providing low-income families with monthly transfers via electronic benefit cards issued by a state-owned financial institution), Mexico's direct electronic payments to the bank accounts of providers of goods and services of the federal government, as well as payroll payments to the accounts of most federal employees, and India's use of electronic means of payment for government salaries, pensions, tax refunds, and other G2P payments. Payments to businesses from the government (G2B) have also been increasingly disbursed using digital payment methods, including in developing countries. In the case of Peru pre-COVID-19, 59 percent of subnational government G2B procurement payments were made via checks and 41 percent via electronic transfers.

Digital payments have potential to support the social distancing measures imposed in several countries and help reduce the spread of COVID-19. Digital payments allow payment transactions to continue and financial support to reach those in need, when other forms of disbursement become cumbersome due to health guidelines. Paying public wages and other public transfers (both G2P and G2B) digitally is more cost-effective.

Digital payment technologies improve the ability to target cash assistance to households, particularly to the unbanked, to women and to the informal sector. These technologies can also improve the speed of transfers, being the need of the hour, as large informal sectors in many developing economies are in urgent need of assistance. Examples of country-specific uses include China (consumption coupons disbursed via Alipay and WeChat pay), India (transfers via Aadhaar-linked accounts), as well as Colombia, Morocco, Peru, and who have been expanding or leveraging existing digital payment systems, particularly to the informal sector. M-Pesa using countries (e.g., Kenya, Tanzania, Uganda) are also leveraging the system for transfers. Digital payments have also been successfully used in past health crisis experiences. In addition, in crisis times digital G2B payments could include grants to cover wages for staff, employee retention funds for small businesses, and lending programs for businesses.

Development in Fintech could give governments the ability to track consumer spending patterns in real-time. One way to do it would be central banks issue digital currencies (CBDC), whose transactions they can track or if digital service providers are willing or required to share their data with the government. If

so, this can help inform which sectors are suffering the largest consumption declines, based on payment transaction records, and, therefore, where best to target government assistance to firms.

Payments by businesses

Digital wage payments and digital tax payments ensure social distancing and are cost effective in nature and more secure. As compared to cash and check payments (to the extent that these are handed over and cashed physically) the digital payment of wages, taxes and transfers to, respectively, employees, the government, and other businesses benefits both payers and payees by better maintaining social distancing. Some country case examples include Bangladesh and the Philippines on wage payment digitization, and Tanzania on the benefits of digitizing B2G (as well as P2G) payments.

Distributed ledger systems have the potential to transform payments and securities settlement as well as back-office functions by reducing costs and allowing direct business-to-business (B2B) transactions that bypass intermediaries. By bypassing intermediaries, the supply chain could be well improvised, especially in times of COVID-19 crisis. For instance, banks may process payments more slowly due to staff shortages from quarantines or illness. Even more, certain types of payments, particularly cross-border transactions, can involve chains of intermediaries, including correspondent banks, which can be vulnerable to global economic conditions. For example, in the aftermath of the global financial crisis, correspondent banking links toward smaller developing countries were reduced.

Payments and transfers by households

Contactless digital payments for P2P transfers and for purchases in stores is the need of the hour to help maintain social distancing and reduce the potential spread of COVID-19. Existing modalities for digital payments (debit/credit cards, internet banking, mobile wallets, digital payment apps, Unified Payments Interface service, Unstructured Supplementary Service Data, and bank prepaid cards, mobile) have been increasingly used by households around the world. As an example, a recent survey of Indian households indicates the rising use of transactions conducted using digital payments during the COVID-19 crisis.

Certain governments are currently providing incentives to pay for goods or services digitally, through mobile money or e-wallets. For example, Uganda has cut mobile money transfer fees, Egypt, Liberia, and Myanmar have increased transaction size limits, while authorities in Bangladesh, Cameroon, the Democratic Republic of Congo, Ghana, Kenya, Mozambique, Pakistan, Rwanda, Senegal, and Zambia have taken both sets of measures (cutting mobile transfer fees and raising transaction size limits) in response to the pandemic. As the reliance on the online provision of goods and services increases during the pandemic, there will be a greater need for digital methods of payments that are compatible with online use.

Digital forms of payment, including mobile money and digital currencies, can facilitate the processing of remittances in times of crisis. This is especially the case when traditional forms of remittances require physical queuing. For instance, in the Pacific, the United Nations Capital Development Fund is working with mobile network operators to temporarily waive fees for mobile remittances, to help maintain the flow of remittances that is a key source of income for many Pacific island economies.

The digitization of P2G payments, aside from its social distancing benefits, has the scope to raise tax revenues. Digital payment of taxes could improve the visibility of tax payments, which can help combat tax evasion and corruption. For example, digitization schemes for the mobile payment of municipal taxes in Senegal, raised tax revenues by a factor of seven within three months. Higher tax revenues can be particularly important during the ongoing pandemic given the large fiscal expenditure needs most governments will face.

Credit to businesses

Various technologies can be beneficial for lending to businesses, especially in times of crisis. For example, machine learning algorithms can help nonbank lending platforms and digital banks that provide lending to SMEs assess the creditworthiness of businesses remotely and distribute loans rapidly by automating the due diligence process. Big data analytics could allow for the automation of credit approvals, facilitate regulatory compliance and fraud detection. Fintech firms that combine the provision of other services, such as payments or social media, with credit can harness data sources that other lenders cannot, subject to data and privacy rules, and competition policy. Such credit provision can be of particular importance in the informal sector, for SMEs and for the smallest entrepreneurs about which relatively little public information is available, and that may face difficulties accessing credit through traditional bank channels. This consideration is even more important during crises when information asymmetries can amplify credit rationing. In the case of China, a reliance on fintech-based credit provision has been found to improve SMEs' shock resilience, both before and during the current pandemic. Digital, contactless credit provision to businesses can also help implement social distancing during the COVID-19 crisis, by reducing the need for entrepreneurs to physically go to the bank to interact with or deliver documentation to loan officers. Finally, new nonbank lending platforms can become more important during the crisis if bank balance sheets are impaired and their lending is constrained.

Credit to households

P2P lending platforms can offer benefits, and these may increase in crisis times. P2P lending platforms operate with lower overhead and provide their services more cheaply than traditional financial institutions. Mainly small to midsize lenders participate in such platforms. Lending software providers create solutions to process loans faster, and lenders try to tap into new markets and demographics. Some examples, preceding the current crisis, include the case of Brazil where the central bank authorized P2P lending across the whole country, the introduction of a P2P scheme for first time home buyers by Malaysian authorities, and P2P lending in the United States, which is recognized and regulated by the Securities and Exchange Commission as other financial instruments. New P2P lenders often provide better service than established financial institutions due to recent advances in lending technology and fully automated lending processes. P2P financing platforms can facilitate access to credit, as highlighted for instance by emerging P2P lending platforms in China and payment to businesses (P2B) crowd-funding platforms that have taken off in several countries. In crisis times, when bank financing may be harder to obtain, such platforms could provide an alternative potential source of credit for some households and businesses, which would otherwise likely be credit rationed due to their small size and potential lack of documentation. Digital, contactless credit provision to households can also help implement social distancing during the COVID-19 crisis, by reducing the need for households to physically go to the bank to interact with or deliver documentation to loan officers.

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Ashvin Parekh Advisory Services LLP (APAS) was founded in June 2013 and is headquartered in Mumbai, the finance capital of India. APAS is a leading financial advisory firm, providing a wide range of consulting services to a diversified client base, including financial conglomerates, business houses, banking companies, life, general and health insurers, financial institutions, regulators and the government.

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Together, we can make a significant difference to the burden that our nation carries and bring in a bright, new tomorrow for our nation.

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