18th January 2022

India1 Payments Limited
Units No. 801 to 810, 8th Floor,
Tower "B", Diamond District, # 150,
Old Airport Road Bengaluru 560008
Karnataka, India

Dear Sir,

Re.: **Proposed initial public offering of equity shares of Rs. 5 each ("Equity Shares") of India1 Payments Limited] (the "Company") and such offer (the "Offer")**

We refer to your e-mail/ request dated 22nd August, 2021 regarding the content provided to you for your use of the following report by CRISIL Research as part of your subscription to its Industry Research on the following industry:

- CRISIL Research – CRISIL Research on Assessment of ATM industry in India, November 2021 ("Report")

As requested by you, we accord our no objection and give consent to you for including our name and for reproducing, extracting and utilizing content from the Report (hereinafter referred to as `Material'), in full or part, or including references to such Material from the Report made available to you as part of the above subscription in the draft red herring prospectus ("**DRHP**") to be filed with Securities and Exchange Board of India ("**SEBI**") and the stock exchanges where the Equity Shares of the Company are proposed to be listed (the "**Stock Exchanges**"), the red herring prospectus ("**RHP**") and the prospectus ("**Prospectus**") to be filed with the Registrar of Companies, Karnataka at Bengaluru ("**RoC**"), SEBI and the Stock Exchanges or any other authorities, or any other document, including but not limited to any publicity, marketing or other materials, investor/roadshow presentations, analyst reports, research reports or any international supplement of the foregoing for distribution to investors outside India, to be issued or filed in relation to the Offer("**Offer Documents**") or in any corporate presentations, press releases or advertisements until listing and trading of equity shares of the Company on the Stock Exchanges, subject to the following:

- Your reproducing the Material on an `as is where is basis' clearly mentioning the document source & date of release. Eg. - CRISIL Research on Assessment of ATM industry in India, November 2021.
- Your ensuring that there is no misrepresentation/modification to our views/opinions and that the Material is not mentioned out of context or misguidingly.
- Your ensuring that the Material consisting of charts/graphs also contains the relevant texts explaining the charts / graphs.
- Your ensuring that the Disclaimer of CRISIL (given below) is also reproduced along with the Report, at the relevant place in the DRHP, the RHP and the Prospectus.

You agree and undertake not to misrepresent, make any changes to, obliterate or tamper with the Report or present any part thereof out of context or in violation of applicable laws and regulations, if any, in the Offer Documents. Further, you acknowledge and agree that, except for the information reproduced from the Material and subject to the conditions set out in this letter and to the extent permissible under applicable law, CRISIL does not accept responsibility for the Offer Documents or any part thereof.

We confirm that neither the Company, nor its subsidiaries, promoters or directors (as per Annexure A) nor the book running lead managers (“**Lead Managers**”) appointed in relation to the Offer are “related parties” as defined under Section 2(76) of the Companies Act, 2013, of CRISIL Limited.

We also confirm that that we are an independent agency with no relationship with the Company, its subsidiaries, directors, promoters or the Lead Managers.

We further confirm that we are not, and have not in the past, been engaged or interested in the formation, or promotion, or management, of the Company or its subsidiaries.

We confirm that we have, where required, obtained requisite consent that may be required from any governmental authority or other person, in relation to the information provided in the Report and the Material.

Given below is the disclaimer to be used in the Offer Documents.

“CRISIL Research, a division of CRISIL Limited (CRISIL) has taken due care and caution in preparing this report (Report) based on the Information obtained by CRISIL from sources which it considers reliable (Data). However, CRISIL does not guarantee the accuracy, adequacy or completeness of the Data / Report and is not responsible for any errors or omissions or for the results obtained from the use of Data / Report. This Report is not a recommendation to invest / disinvest in any entity covered in the Report and no part of this Report should be construed as an expert advice or investment advice or any form of investment banking within the meaning of any law or regulation. CRISIL especially states that it has no liability whatsoever to the subscribers / users / transmitters/ distributors of this Report. Without limiting the generality of the foregoing, nothing in the Report is to be construed as CRISIL providing or intending to provide any services in jurisdictions where CRISIL does not have the necessary permission and/or registration to carry out its business activities in this regard. India1 Payments Limited will be responsible for ensuring compliances and consequences of non-compliances for use of the Report or part thereof outside India. CRISIL Research operates independently of, and does not have access to information obtained by CRISIL Ratings Limited / CRISIL Risk and Infrastructure Solutions Ltd (CRIS), which may, in their regular operations, obtain information of a confidential nature. The views expressed in this Report are that of CRISIL Research and not of CRISIL Ratings Limited / CRIS. No part of this Report may be published/reproduced in any form without CRISIL’s prior written approval.”

This letter may be shared by the Company, with the Book Running Lead Manager(s) and legal advisers concerned in relation to the Offer and may be relied on by you, the Lead Managers and the legal advisors appointed in relation to the Offer.

We also authorise you to deliver this letter of consent to SEBI, the Stock Exchanges and the RoC pursuant to and incompliance with the Companies Act, 2013, and the rules thereunder, each as amended, or any other legal, governmental, regulatory or statutory authority as may be required, in relation to the Offer.

We also give our consent to include this letter of consent, the engagement letter signed on July 30, 2021 with reference number SS/BD/BTI/CR/2021CH1143 and the Report as part of the section titled “Material Contracts and Material Documents for Inspection” in the Offer Documents which will be available to the public for inspection, and have no objection with you sharing the Report or Material with any regulatory/ statutory/ judicial authority as required under applicable laws, for the purpose of responding to any query from any person in relation to the Offer or or pursuant to an order passed by any authority. We consent to the Report, engagement letter and this consent letter being hosted on the website of the Company and being made available to the public on such website until listing of equity shares of the Company pursuant to the Offer and a link to the Report being disclosed in the Offer Documents.

We understand that this letter of consent does not impose any obligation on the Company or the Lead Managers to include in the Offer Documents, all or part of the Material or any information with respect to which consent for disclosure is being granted.

We represent that our execution, delivery and performance of this consent have been duly authorised by all necessary action (corporate or otherwise).

We agree to keep strictly confidential, your request, this consent and the non- public information relating to the Offer until such time that: (A) such disclosure by us is approved by the Company; or (B) such disclosure is required by law or regulation in which case, we shall, if permitted by law, provide prior intimation to the Company; or (C) such information is already in public domain or comes into public domain through no fault of ours.

For CRISIL Limited

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Prasad Koparkar
Senior Director – CRISIL Research

Annexure A:

List of Directors:

Name of Directors	**Address of Directors**	**DIN**
Mr. David Scott Glen	# 299, Edgecliff Road,, Woollahra , NSW, Sydney, 2025, Australia	02073436
Mr. Srinivas Kondethimmanapalli	Villa A-35, Wind-Mills of Your Mind, No.331, RD 5B Next to L&T Infotech Epip Zone, Whitefield Bangalore 560066 Karnataka	03533535
Mr. Peter Alexander Blackett	4 Finchley Place, Glenhaven NSW, 2156, Australia	06649881
Mr. Nikhil Mohta	A 406, Oberoi Springs, Off Link Road, Andheri West, Mumbai – 400053	00932030
Mr. Rajagopalan Subramaniakumar	OVERSEAS HOUSE 21, STERLING AVENUE, NUNGAMBAKKAM CHENNAI- 600034	07825083
Ms. Amrita Gangotra	A-118-E, SECTOR 35, Noida Uttar Pradesh 201301	08333492
Mr. Natrajan Ramakrishna	201, Marvel Amora, 1st Main 225 Defence Colony, Behind C M H Hospital Bangalore North Bengaluru Karnataka 560038	06597041
Ms. Ruchita Taneja Aggarwal	B3- 203, PARSVNATH EXOTICA, GOLF COURSE ROAD, SECTOR-53, GURGAON-122002	0009295623

List of Promoters:

a. Mr David Glen
b. The Banktech Group Pty Limited
c. BTI Payments Singapore Pte Ltd

Industry report

Assessment of ATM Industry in India

November 2021

Macroeconomic scenario

COVID-19 pandemic impacts world and Indian economy; bounce back expected in Fiscal 2022

According to the provisional estimates released by the NSO, India's real GDP growth in fiscal 2021 stood at -7.3% versus the earlier estimate of -8.0%. After sluggish growth in first half of the fiscal owing to rising Covid-19 cases, gross domestic product (GDP) growth has moved into positive territory in the second half of the year reflecting a pickup in economic activity.

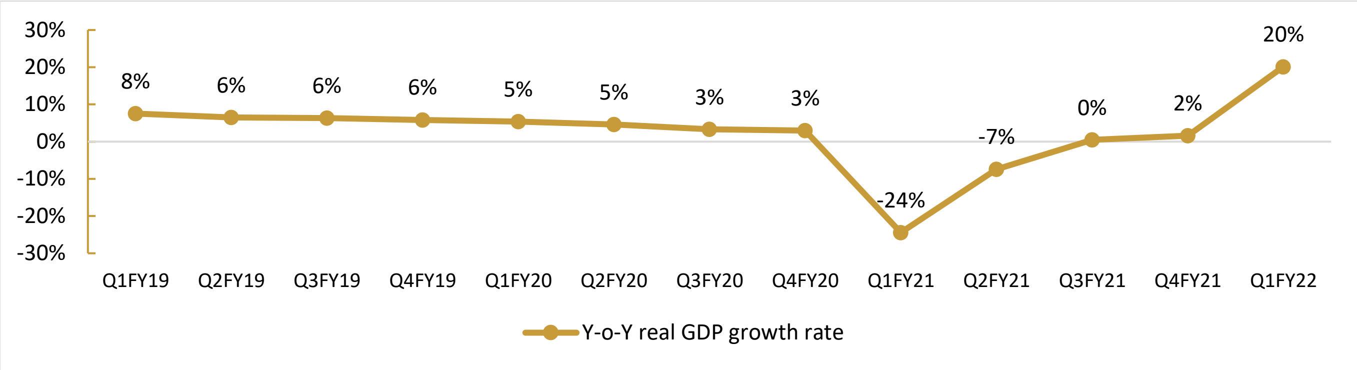
Fiscal 2020 was volatile for the global economy. The first three quarters were ensnared in trade protectionist policies and disputes among major trading partners, volatile commodity and energy prices, and economic uncertainties arising from Brexit. Hopes of broad-based recovery in the fourth quarter were dashed by the Covid-19 pandemic, which has infected more than 243 million people in 224 countries (as of October 25, 2021)[1], leading to considerable human suffering and economic disruption.

The COVID-19 pandemic sharply slowed the Indian economy in the first quarter of Fiscal 2021, but the huge economic costs that it extracted, forced the economy to open up and get back on its feet in the second quarter of Fiscal 2021. What also helped was a sharp cutback in operating costs for corporates due to job and salary cuts, employees exercising work from home options, low input costs due to benign interest rates, crude and commodity prices.

The fierce second wave of Covid-19 pandemic took the healthcare ecosystem to the brink and beyond in Q1 of fiscal 2022, but it did not hit economic activity as hard as the first wave did. The main reason for this would be decentralised and less-stringent lockdowns, which reflect the 'learning to live with the virus attitude' that authorities adopted. Many states also permitted construction and manufacturing activities to continue during the lockdown.

The pandemic came at the most inopportune time since India was showing signs of recovery following a slew of fiscal/monetary measures as nominal GDP grew by 8.8% on year in Q4 of fiscal 2021 as compared to 4.7% in Q4 of fiscal 2020. Having said that, CRISIL Research foresees growth rebounding in Fiscal 2022, on the back of a very weak base, a counter-cyclical Union Budget for Fiscal 2022 pushing investments and some benefit from a rising-global-tide-lifting-all-boats effect. The gradual increase in vaccinations against COVID-19 is also expected to boost confidence and support stronger recovery. Even after the strong rebound, fiscal 2022 real GDP is expected to be only slightly higher than that in fiscal 2020.

Trend in real GDP growth rate on quarterly basis

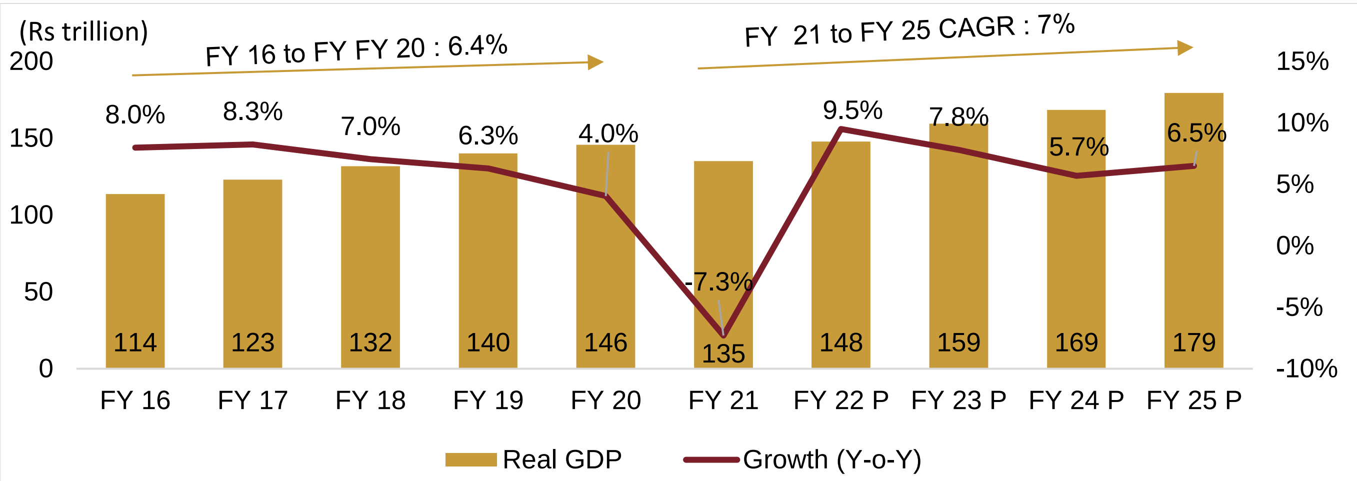


Source: CSO, RBI, CRISIL Research

The budget's focus on pushing capital expenditure (capex) despite walking a fiscal tightrope however provides optimism and creates a platform for higher growth. Given that the focus of the budget was on investment rather than consumption push, the full impact of the expenditure will be seen in the near term via multiplier effects, and over time, through enhancement of productive capacity. To that extent, CRISIL Research believes that the budgetary provisions help raise the medium-term prospects for the economy.

This budget not only focussed on pushing central capex but also attempted to nudge state government capex. A Reserve Bank of India (RBI) study points out that an increase in capex by the central and state governments by one rupee each induces an increase in output by Rs 3.25 and Rs 2.0, respectively *(Source: RBI Bulletin – April 2019).*

Budgetary support and vaccines expected to boost economic growth



Note: P - Projected

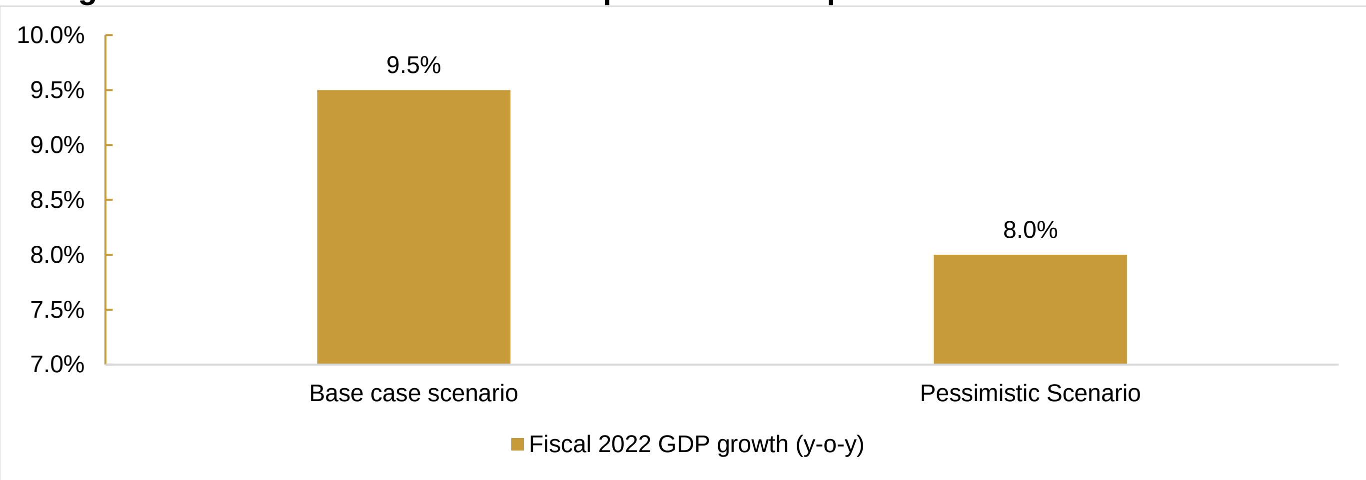
Source: National Statistics Office (NSO), CRISIL Research estimates

The possibility of a third Covid wave post the festive season does pose a downside risk to economic growth in fiscal 2022. In the aftermath of the second wave witnessed in the first quarter of the fiscal, many states had implemented localised restrictions in the form of weekend lockdowns, restricting non-essential businesses from operating and/or night curfews to prevent the spread of the infection. Although the Covid cases during 2nd wave have declined to below 40,000 in mid-July 2021 from over 4 lakh cases in 5th May 2021, there is still the looming fear of a third wave.

CRISIL Research forecasts India's GDP for fiscal 2022 to grow by around 9.5% in our base case scenario, assuming that 70% of the adult population will be vaccinated by December 2021 and a third Covid wave does not strike us. Covid-19 vaccinations have also started gaining pace in India. While close to 64% of India's adult population has received the first dose of the Covid-19 vaccine (as of September 19, 2021), 21% of India's adult population has taken the second dose.

A third wave would pose a significant downside risk to the growth forecast, as would a slower-than-anticipated pace of vaccination. We forecast India's GDP to grow by 8% in fiscal 2022 in our pessimistic scenario.

GDP growth scenarios based on assumptions of case peak

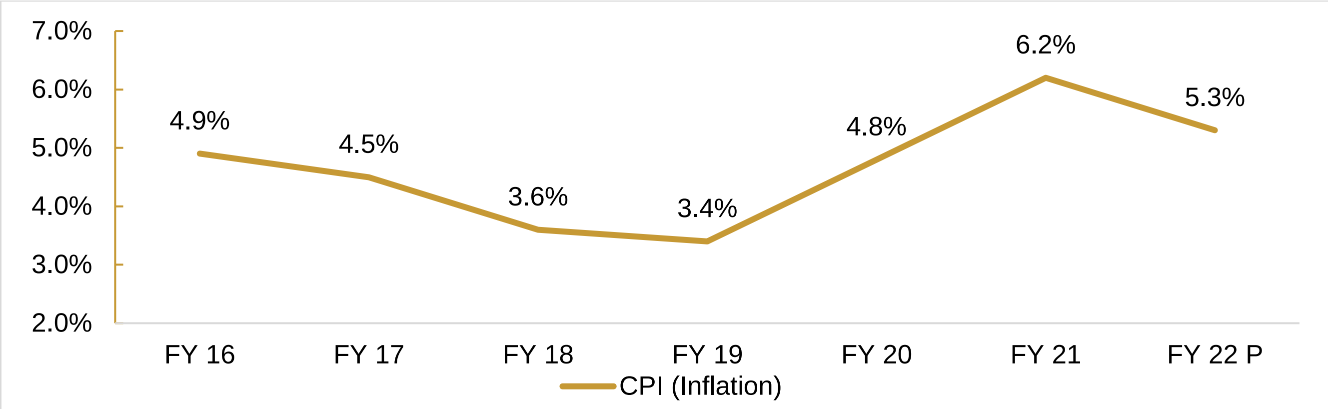


Source: CRISIL Research

In fiscal 2023, CRISIL Research expects growth to remain strong at 7.8% and become more broad-based, as a sufficient proportion of population gets vaccinated by then. This will particularly strengthen growth for contact-based services, which have been the biggest victims. Beyond that, growth is expected to moderate.

Prior to the onset of the pandemic, India's GDP growth slowed on account of existing vulnerabilities such as a weak financial sector and subdued private investment. However, in light of production-linked incentive (PLI) scheme, reduction in corporate tax rate, labour law reforms together with healthy demographics and a more favourable corporate tax regime, India is expected to witness strong GDP growth when the global economy eventually recovers, supported by prudent fiscal and monetary policy.

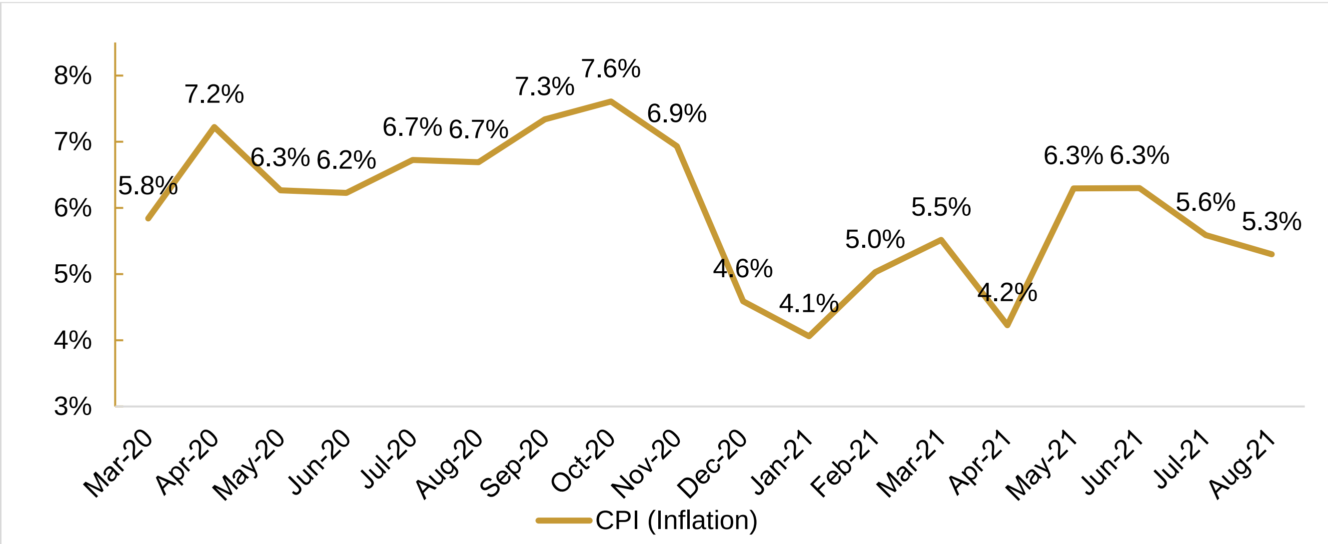
Due to higher liquidity push, inflation moved out of target band



Note: P - Projected

Source: National Statistics Office (NSO) and CRISIL Research

CPI inflation has been on the higher side in recent years



Source: National Statistics Office (NSO) and CRISIL

CPI Inflation was out of RBI's target band of 2-6% from April 2020 to November 2020; however, it remained within RBI's target band from December 2020 to April 2021. In May 2021 and June 2021, the inflation levels observed slight elevation and were out of RBIs target band; however, in July 2021 and August 2021, CPI inflation declined to 5.6% and 5.3%, respectively.

Inflation continues to face pressure from high international commodity prices, including edible oils and metals, which are at decadal highs and crude oil prices which remain beyond the comfort zone at over ~$70 per barrel. Recent data has indicated firms passing on rising input costs to consumers despite weak demand conditions. We expect the pass-through to gain more steam as domestic demand strengthens in the second half of this fiscal.

The lid on overall inflation will be kept by food, as it benefits from the high base of last year. However, the progress of monsoon and impact of rising global food prices will remain a key monitorable. CRISIL pegs fiscal 2022 average CPI inflation at 5.3% for fiscal 2022.

Macroeconomic outlook for Fiscal 2022

Macro variables	FY20	FY21E	FY22P	Rationale for outlook
GDP (y-o-y)	4.0%	-7.3%	9.5%*	The second wave and the resultant localised lockdowns has impeded the path to economic recovery, leading CRISIL to revise down the growth forecast for Fiscal 2022 to 9.5%, from 11.0% earlier. That said, expected pick-up in economic activity post-vaccination and support from global growth would act as positives
Consumer price index (CPI) inflation (y-o-y)	4.8%	6.2%	5.3%	Upside risks on inflation are growing from surging international commodity prices. While producers are bearing a greater burden of rising input costs for now, these could get passed to retail prices once demand recovers. Food inflation could also face pressure from disruptions to the rural economy due to the pandemic's spread, and rising global prices
10-year Government security yield (March-end)	6.2%	6.2%	6.5%	The RBI's unconventional policy measures have been instrumental in keeping G-sec yields at decadal lows, at a time when the bond market is facing an unprecedented rise in Government borrowing. Supply pressures could have a bearing on yields once the RBI starts normalising liquidity. Adverse global developments such as premature withdrawal of monetary easing by US Federal Reserve could further add pressure
CAD (Current account balance)/GDP (%)	-0.9%	1.3%	-1.2%	The trajectory of COVID-19 infections, pace of the vaccination drive, and duration of state lockdowns will have an important bearing on domestic demand and, consequently, import growth. Increased prices of commodities, especially crude oil – India's largest import item – will drive imports. External demand will support exports, backed by strong economic recovery among India's major trading partners in the US, Europe, and Asia
Rs/$ (March average)	74.4	72.8	75.0	With the second wave adversely impacting India's economic recovery, and amid inflationary pressures, the rupee may weaken against the dollar. The current account balance turning into deficit (from a surplus last Fiscal), will exert further downside pressure on the rupee. Some support may be seen due to the RBI's interventions to mitigate volatility. Record high forex reserves and foreign investor inflows, owing to interest rate differential between India and global economies, will also prop up the rupee

**Downward bias*
Note: P – Projected
Source: Reserve Bank of India (RBI), National Statistics Office (NSO), CRISIL Research

GDP to bounce back over the medium term

After clawing back in fiscal 2022, CRISIL Research forecasts India's GDP to grow at 6.0-7.0% per annum between fiscals 2023 and 2025. This growth will be supported by the following factors:

- Focus on investments rather than consumption push enhancing the productive capacity of the economy.
- The production linked incentive (PLI) scheme which aims to incentivise local manufacturing by giving volume-linked incentives to manufacturers in specified sectors
- Raft of reform measures by the government along with a more expansionary stance of monetary policy leading to a steady pick-up in consumption demand

- Policies aimed towards greater formalisation of the economy are bound to lead to an acceleration in per capita income growth

Risks to growth

Covid-19 cases increasing, a third wave this fiscal: The second Covid-19 wave has thrown cold water over the Indian economy that was beginning to warm up after the most severe contraction since Independence. The rash of afflictions that followed forced states to lock down, hurting consumer and business confidence yet again. Mercifully, daily cases seem to have peaked for now, though they remain above the peak of the first wave. But the risks of another wave and tardy vaccinations mean states would be chary of fully unlocking anytime soon. It can have a debilitating impact on economic activity and thereby growth.

Elevated inflation: Significant cost-push pressures on account of surging international commodity prices and supply disruptions has raised cost of production for manufacturing firms. Pass-through to consumer prices could further pose as a headwind to recovery in demand.

Premature tightening of global monetary policies: Resurgence of inflation globally could lead major central banks to unwind their extraordinary easy monetary policies sooner than expected. This could hit sentiment, possibly leading to capital outflows from the Indian economy and some tightening in domestic financial conditions.

Geopolitical developments: External developments, most importantly the US-China trade war, have proved to significantly impact global GDP growth as well as export earnings and capital flows to emerging markets such as India. While there is some respite with the signing of Phase 1 of the US-China trade deal, several issues remain unresolved. Any re-escalation of tensions could again work adversely. Geopolitical developments in the Middle East could also disrupt crude oil supply and prices, likely hurting a wide range of domestic macroeconomic parameters, including current account deficit, inflation and GDP growth.

Persistent stress in financial sector: This has been one of the major drags on GDP growth. Liquidity issues faced by NBFCs and risk aversion amongst lenders has hampered credit growth as well as transmission of monetary policy easing. While credit growth is expected to improve in the current fiscal with stronger GDP growth, the system is expected to continue to face uncertainty over asset quality with the Covid-19 pandemic continuing to cast its shadow on the economy. Easing of constraints and risk aversion in the financial system is critical for pick-up in growth.

India’s GDP to recover sharply

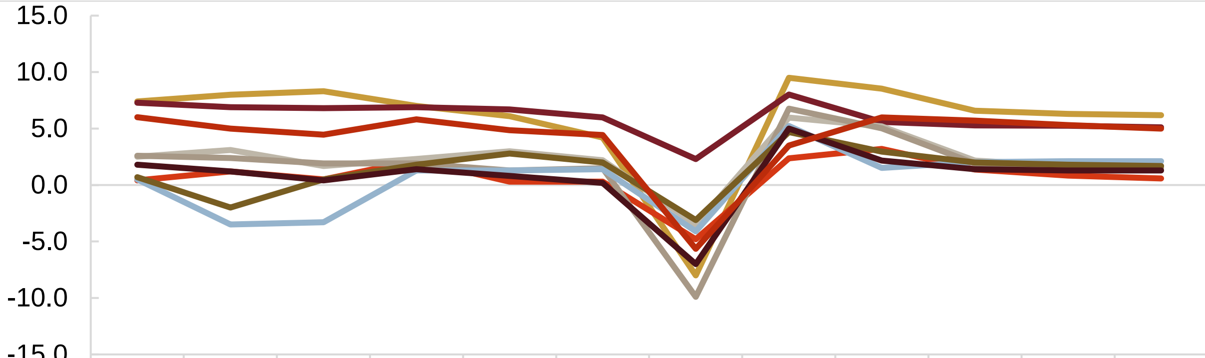
India was one of the fastest growing economies in the world pre-COVID, with annual growth of around 6.7% in between calendar year 2014 to 2019. Over the few years prior to the onset of the pandemic, India’s macroeconomic situation had gradually improved with the twin deficits (current account and Fiscal) narrowing and the growth-inflation mix improving and durably so. The Government adopted an inflation-targeting framework that provides an institutional mechanism for inflation control, while modernising central banking.

While economic growth in calendar year 2020 has been dented due to COVID-19, CRISIL expects the economy to rebound and India to regain its tag of one of the fastest growing economies globally in the medium-term.

Going forward, rapid urbanisation, rising consumer aspiration and increasing digitisation coupled with Government support in the form of reforms and policies are expected to support growth. For example, the Government has recently announced production-linked incentives across identified sectors with an aim to propel the growth of India as a manufacturing destination. At a macro level, digitalization has led to various benefits like linkage to aadhaar identity cards, direct benefit transfer and various other Government benefits.

The IMF forecasts India's GDP to grow by 9.5% in calendar year 2021 due to the lower base of calendar year 2020 and approved vaccines and policy measures. At this pace of growth, India is forecasted to be the fastest growing economies in the world in 2021. Going forward as well, IMF forecasts India's GDP to grow at a faster pace than other economies.

India is one of the fastest-growing major economies (GDP growth, % year-on-year)



	2014	2015	2016	2017	2018	2019	2020	2021	2022 P	2023 P	2024 P	2025 P
India	7.4	8.0	8.3	7.0	6.1	4.2	-8.0	9.5	8.5	6.6	6.3	6.2
China	7.3	6.9	6.8	6.9	6.7	6.0	2.3	8.0	5.6	5.3	5.2	5.1
Japan	0.4	1.2	0.5	2.2	0.3	0.3	-4.8	2.4	3.2	1.4	0.8	0.6
United states	2.5	3.1	1.7	2.3	3.0	2.2	-3.5	6.0	5.2	2.2	1.7	1.7
United kingdom	2.6	2.4	1.9	1.9	1.3	1.5	-9.9	6.8	5.0	1.9	1.6	1.5
Brazil	0.5	-3.5	-3.3	1.3	1.3	1.4	-4.1	5.2	1.5	2.0	2.1	2.1
Russia	0.7	-2.0	0.5	1.8	2.8	2.0	-3.1	4.7	2.9	2.0	1.8	1.7
South Africa	1.8	1.2	0.4	1.4	0.8	0.2	-7.0	5.0	2.2	1.4	1.3	1.3
Malaysia	6.0	5.0	4.5	5.8	4.8	4.4	-5.6	3.5	6.0	5.7	5.3	5.0

Note: GDP growth is based on constant prices, Data represented is for calendar years, P: Projected

Source: IMF (World Economic Outlook – October 2021 update)[2]

Along with being one of the fastest growing economy in the world, India ranks fifth in the world in terms of nominal GDP in calendar year 2020. In terms of purchasing power parity (PPP), India is the third largest economy in the world, only after China and the United States.

GDP Ranking of key economies across the world (2020)

Country	GDP Rank	% share (World GDP)	PPP Rank	% share (World GDP,PPP)
United States	1	24.7%	2	15.8%
China	2	17.4%	1	18.3%
Germany	3	4.5%	4	3.4%
United Kingdom	4	3.2%	9	2.3%
India	5	3.1%	3	6.7%
France	6	3.1%	8	2.3%

Italy	7	2.2%	10	1.9%
Canada	8	1.9%	14	1.4%
Korea	9	1.9%	13	1.7%
Russia	10	1.8%	5	3.1%

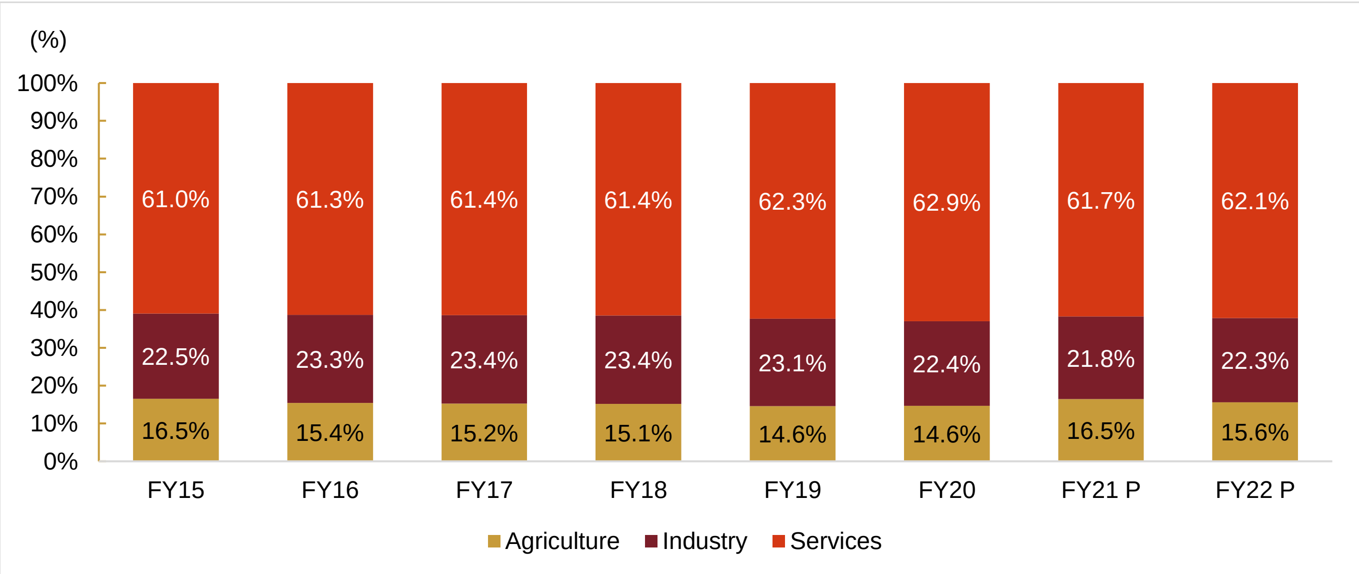
Note: Japan is not considered in the key economies as data for 2020 is not available

Source: World Bank, CRISIL Research

Contribution of various sectors to GDP

As compared to various developed economies, which witnessed a good contribution from manufacturing and industry first and subsequently in services, the Indian transformation story has been different. A notable feature of Indian economy has been the services sector's rising contribution to the overall output of the economy. Over the last three fiscal years ending fiscal 2020, the service sector has grown at a rate of ~7%, thereby taking the contribution of services sector to 62.9% in terms of Gross Value Added (GVA) at constant prices. In Fiscal 2021, overall GVA contracted by ~6.5% with industry and services sector contracting by ~7.4% and ~8.4% respectively.

Share of sector in GVA at constant prices

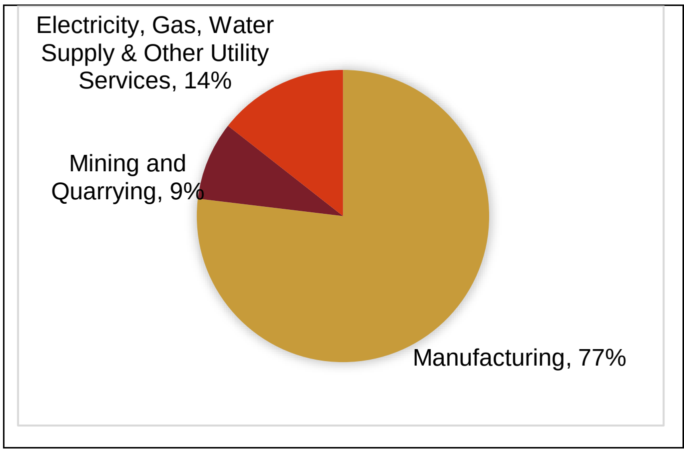


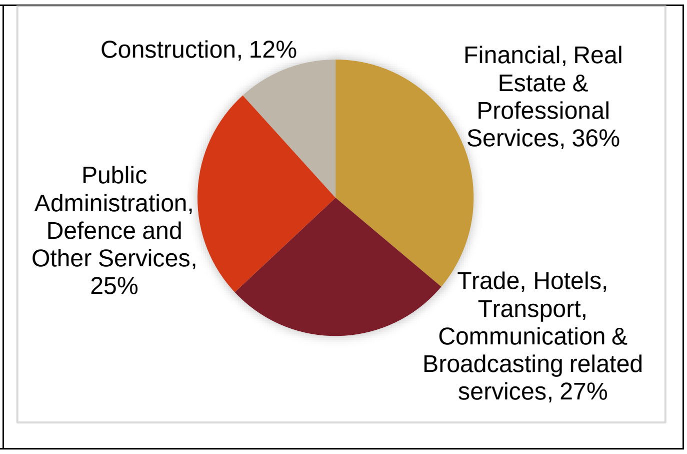
Note: P- Projected

Source: RBI; CRISIL Research

Industry and services sector can be further classified into sub-sectors. In industry, majority of the contribution comes from manufacturing sector which contracted by ~5% and in the services sectors, highest contribution comes from financial, real estate and professional services segment which witnessed a muted growth of ~1%. Within services sector - Trade, Hotels, Transport, Communication and Services related to broadcasting was severely hit as it witnessed a contraction of ~15% followed by construction which contracted by ~6% in Fiscal 2021.

Share of sub-sectors in GVA by Industry (FY21)	Share of sub-sectors in GVA by Services (FY21)





Note: Classification of sub-sectors is based on GVA at current prices

Source: RBI, CRISIL Research

Budget turns expansionary with an eye on medium term

India's first union budget after a once-in-a-century global pandemic -- and only the fourth to follow a contraction in its independent history – voted for an infrastructure-led, counter-cyclical Fiscal stimulus to mend the broken economy. The idea clearly, was to push the growth multiplier rather than stoke consumption through steroids, even if that meant stretching the glide path of Fiscal deficit. If there is an overarching picture, it is that this budget sets the tone for much-needed infrastructure growth for the next 3-4 years. That will help both, sustain development and create jobs. But implementation, which is all-crucial, remains the elephant in the room.

Broadly, the budget had five key highlights:

- **Growth-focussed, expansionary**

Significantly, it chose to push the pedal on investment at this juncture. Studies highlight how the positive spill over effects of public investment only amplify during periods of uncertainty. For the Indian economy specifically, capital expenditure (capex) typically has higher multiplier effect than revenue spending, by crowding in private investment. This budget not only focussed on pushing central capex but also attempted to nudge state Government capex. A Reserve Bank of India (RBI) study points that an increase in capex by the central and state Governments by one rupee each induces an increase in output by Rs. 3.25 and Rs. 2.0, respectively.

- **Improved spending quality**

While maintaining focus on capex, the budget also allowed for some normalisation of extraordinary spending that took place in response to the pandemic. That said, it also attempts to improve quality of spends (compared with the pre-pandemic trend). Thus, Government has not only chosen to re-orient expenditure but also has tried to improve the expenditure mix to make way for more capex.

- **Enhanced transparency**

Deficit numbers have shot up. But one reason for this is enhanced transparency in the budget, which lends to their credibility. The budget relies less on off-budget items for funding investments and more on capex allocations. It also puts an end to the practice of funding Food Corporation of India's shortfall through borrowings from National Small

Savings Fund (NSSF) and replaces it with budgetary allocation. As per CRISIL estimates, excluding the impact of inclusion of NSSF funds for FCI and Government fully serviced bonds, Fiscal deficit would have been lower about 0.5-1% of gross domestic product (GDP) in Fiscal 2021 and about 0.6% lower in Fiscal 2022

- **An eye on medium term**

It tries to lift the medium-term growth potential through a capex push and sharper focus on financial sector reforms such as:

  - **Recapitalising public sector banks (PSBs) so they can support economic recovery:** The pandemic landed a double whammy on a financial sector that was already weighed down by non-performing assets (NPAs) and slack credit demand. Frontloading of capital infusion for banks (Rs. 200 billion has been provided for Fiscal 2022) to withstand possible asset quality deterioration was an imperative.

  - **Cleaning up bank books:** By creating asset management and reconstruction companies, the intention is to consolidate, manage and dispose of stressed assets of PSBs.

  - **Disinvestment:** In another progressive step for the financial sector, the government, in the budget, also announced its intention to privatise two public sector banks (PSBs) and one general insurance company. The disinvestment process of Air India, BPCL, and Life Insurance Corporation of India (LIC) have been moved to fiscal 2022.

  - **Bank Privatisation:** In another progressive step for the financial sector, the Government, in the budget, also announced its intention to privatise two public sector banks (PSBs) and one general insurance company.

  - **Reforming the beleaguered manufacturing sector:** Manufacturing was in doldrums even before the pandemic struck, and was worst-affected in Fiscal 2021 after services. The budget announced more measures to address that in continuation with the Atmanirbhar Bharat package and production-linked incentive scheme, such as customs duty rationalisation, with particular focus on micro, small and medium enterprises (MSMEs).

  - **Roadmap for public sector investment:** The budget bats for a massive push to infrastructure creation; it intends to augment funds for the flagship National Infrastructure Pipeline and lays down a roadmap to do so by increasing capex, monetising assets and developing instruments for infrastructure financing. That should, as earlier mentioned, have a high multiplier effect on growth and employment.

  - **Asset monetisation:** The budget also announced the launch of the National Monetisation Pipeline (NMP) to leverage operating public infrastructure, the first of its kind in India. The Government envisages monetization of roads, railways, airports, and oil and gas pipelines under this initiative. The funding of the National Infrastructure Pipeline will critically hinge on the success of these efforts to monetise existing assets. NMP estimates aggregate monetisation potential of Rs 6 trillion through core assets of Central Government over a 4-year period from FY22-FY25.

Sector-wise monetisation pipeline over the next 4 years

Sector	Estimated Potential (Rs billion)

Roads	1,602
Railways	1,525
Power Transmission	452
Power Generation	398
Telecom	351
Warehousing	289
Mining	287
Natural Gas Pipeline	244
Product pipeline/ Others	225
Aviation	207
Urban Real Estate	150
Ports	129
Stadiums	115
Total	***6,000***

Source: NITI Aayog, CRISIL Research

- **Growth-led approach to heal pandemic-induced scars:** Post-pandemic recovery has been sharply uneven. Manufacturing is recovering faster led by policy support, pent up demand and some shift away from services. Services (especially contact-based ones like trade, hotels, transport and communication) continue to bear the brunt. Smaller firms and micro enterprises have been more severely hit than larger ones. And the rural poor received more support to incomes and jobs than the urban, who were also significantly affected. The budget attempts to correct some of these anomalies. The budget is premised upon infrastructure spending creating jobs for the unskilled and semi-skilled workforce.

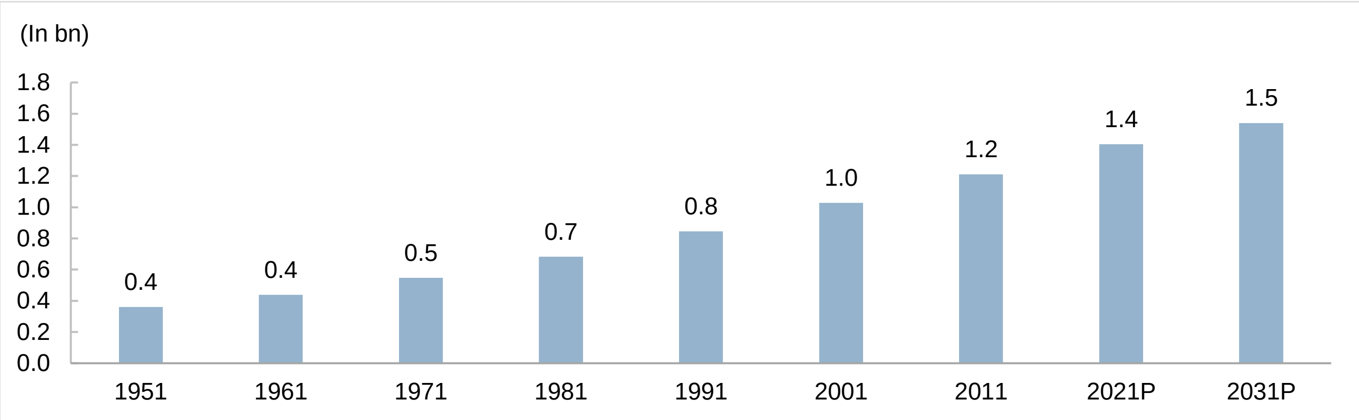
All in all, the economy is recovering faster than expected by CRISIL. Consistently good agriculture performance, successful flattening of the COVID-19 curve and a pick-up in Government spending in recent months has reduced the downside to the current Fiscal's de-growth and led to an upward revision in next Fiscal's growth prospects.

Key growth drivers

India has world's second largest population

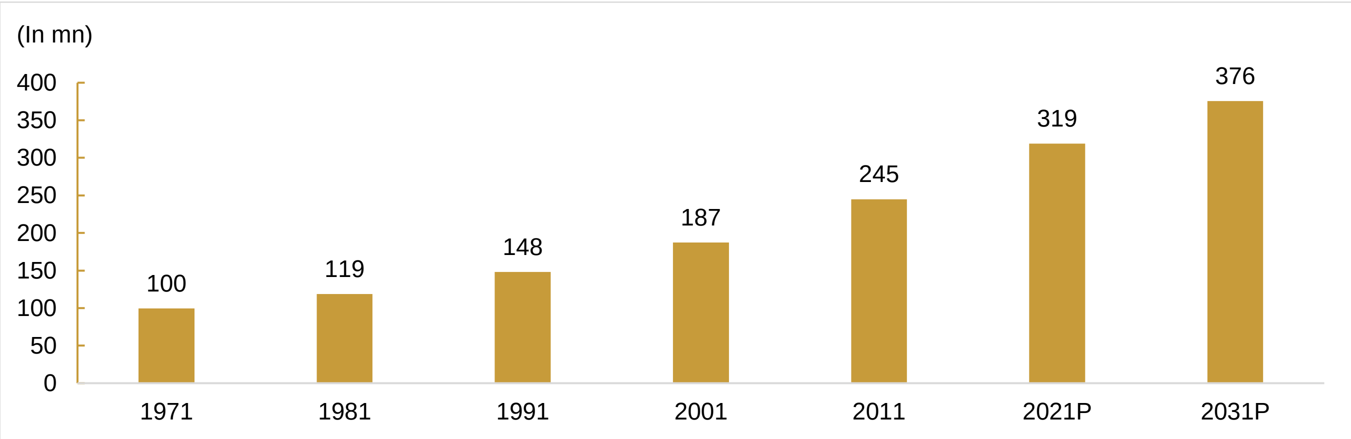
As per Census 2011, India's population was ~1.2 billion, and comprised nearly 245 million households. The population, which grew nearly 18% between 2001 and 2011, is expected to increase about 11% between 2011 and 2021, to 1.4 billion. The population is expected to reach 1.5 billion by the end of 2031 and number of households are expected to reach ~376 million by the same date.

India's population growth trajectory



Note: P: Projected
Source: United Nations Department of Economic and Social affairs[3], CRISIL Research

Number of households in India

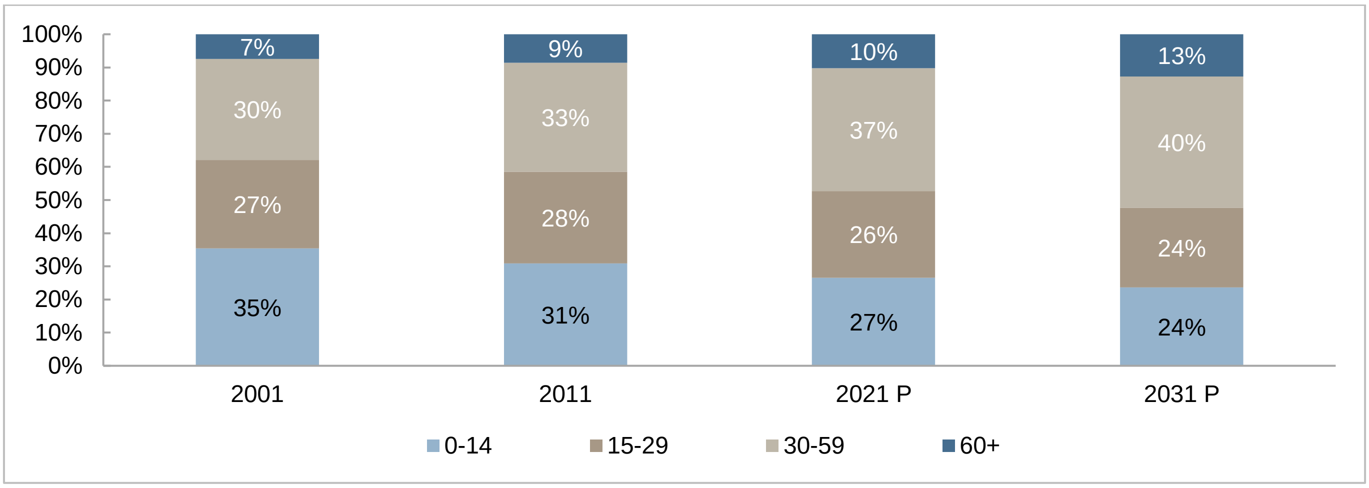


Note: P: Projected
Source: Census India, CRISIL Research

Favourable demographics

As of calendar year 2020, India has one of the largest young populations in the world, with a median age of 28 years. CRISIL forecasts that approximately 90% of Indians will still be below the age of 60 by calendar year 2021 and that 63% of them will be between 15 and 59 years. In comparison, in calendar year 2020, the United States (US), China and Brazil had 77%, 83% and 86%, respectively, of their population below the age of 60.

India's demographic dividend



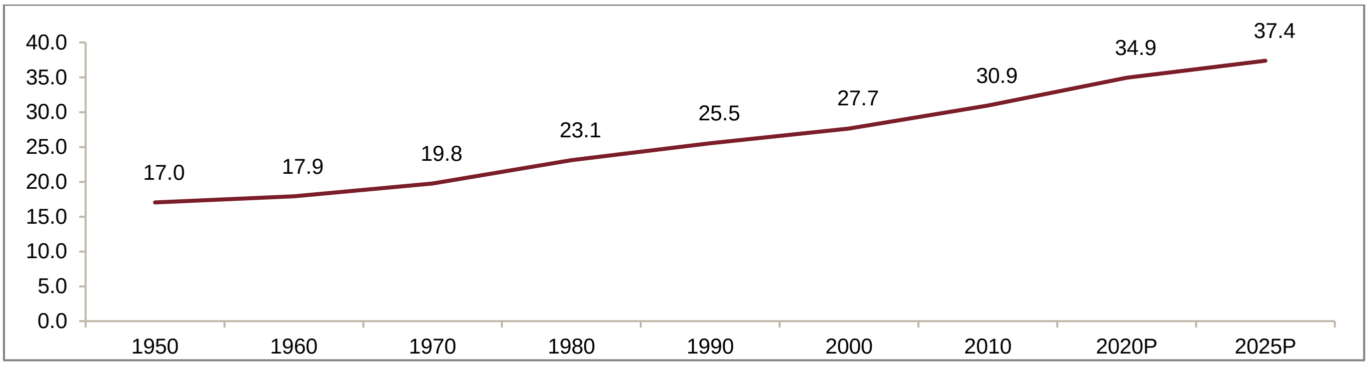
Note: P: Projected

Source: United Nations Department of Economic and Social affairs, CRISIL Research

Urbanisation

Urbanisation is one of India's most important economic growth drivers. It will drive substantial investments in infrastructure development, which is expected to create jobs, develop modern consumer services and increase the ability to mobilise savings. The country's urban population has been rising consistently over the decades. In 1950, it was 17% of total population. As per the 2018 revision of World Urbanization prospects, it was estimated at 34.9% for India. This is expected to reach 37.4% by 2025.

Urban population as a percentage of total population (%)



Note: P - projected

Source: Census 2011, World Urbanization Prospects: The 2018 Revision (UN)[4]

Increasing per capita GDP

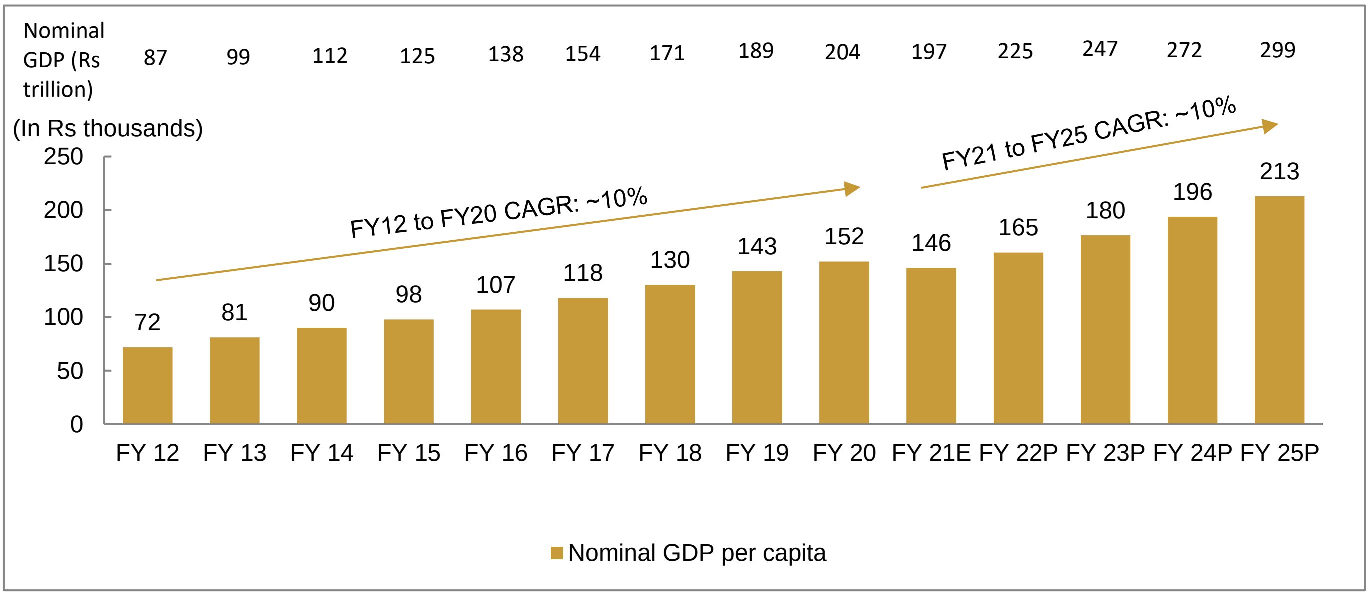
Per capita income is estimated to have contracted by 8% in Fiscal 2021 compared to a growth of 2.9% in the preceding Fiscal. CRISIL forecasts that the per capita income will gradually improve with a pick-up in GDP growth and sustained low inflation. This will be an enabler for domestic consumption. As per IMF estimates, India's per capita income (at constant prices) is expected to grow at 6.2% compound annual growth rate (CAGR) from Fiscals 2021-25.

Per capita income	Level in FY21 (INR thousands)		Growth at constant prices (%)									
	Current prices	Constant prices	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21 E	FY25P
	146	100	3.3	4.6	6.2	6.7	6.8	5.7	5.8	2.9	-8.0	6.2*

Note – E: Estimated, (*) - 4-year CAGR growth (FY21-FY25), As per IMF estimates of April 2021

Source – Ministry of Statistics and Program Implementation (MOSPI), International Monetary Fund (IMF), CRISIL Research

Trend in Nominal GDP per capita (at current prices)



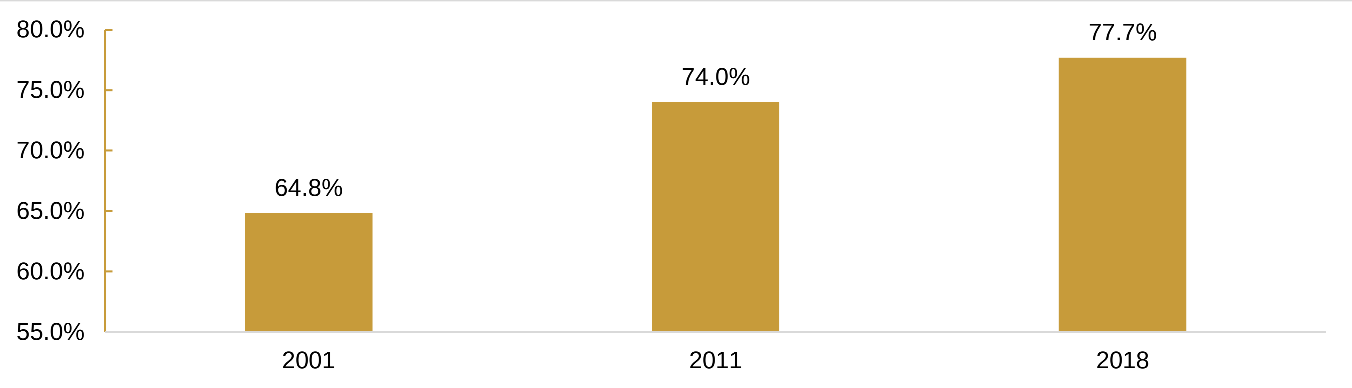
Note: P- Projected

Source: MOSPI, World Bank, CRISIL Research

Financial penetration to rise with increase in awareness of financial products

Overall literacy in India is at 77.7% as per the results of recent NSSO survey conducted from July 2017 to June 2018 which is still below the world literacy rate of 86.5%. However, according to the National Financial Literacy and Inclusion Survey (NCFE-FLIS) 2019, only 27% of Indian population is financially literate indicating huge gap and potential for financial services industry. The survey defines financial literacy as combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing.

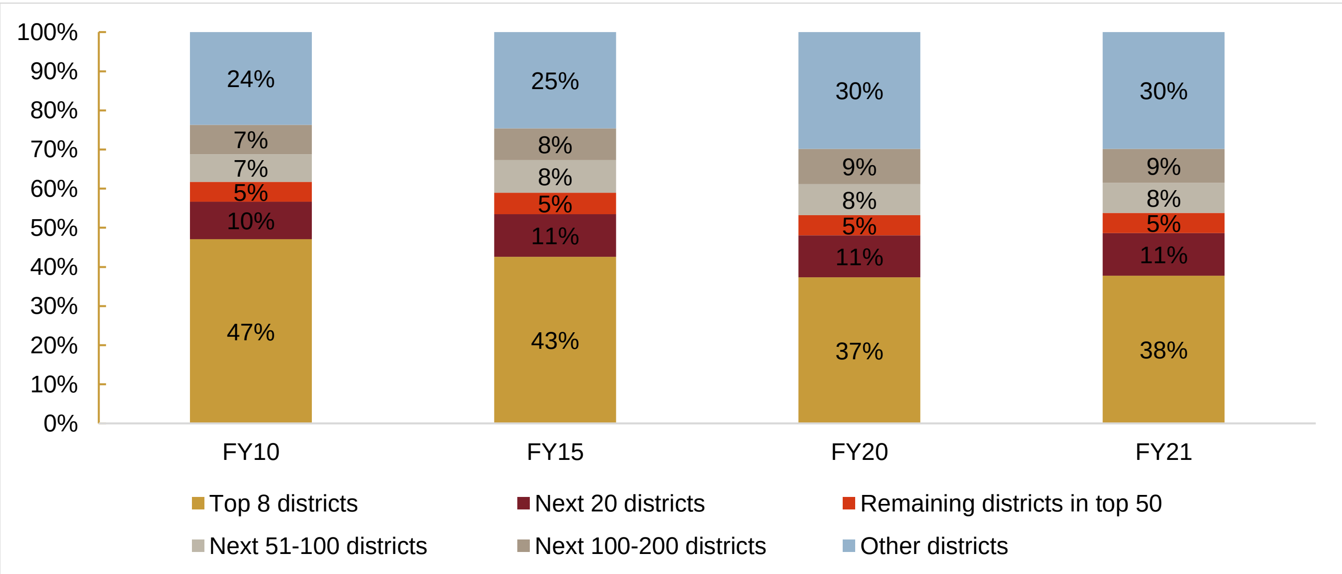
Overall literacy rate on the rise in India



Source: Census 2011, NSO Survey on household social consumption (2017-18)[5],CRISIL Research

With increasing financial literacy, mobile penetration, awareness and the Prime Minister's Jan Dhan Yojana bank accounts (scheme aimed at bringing the unbanked under the formal banking system), there has been a rise in the participation of individuals from non-metro cities in banking. With more people attached to the formal banking sector, the demand for financial products in smaller cities has seen a major uptick in recent years. Going forward, CRISIL expects financial penetration to increase on account of increasing financial literacy.

Share of top 8 cities in banking deposits exhibits a reducing trend indicating increasing financial penetration



Note: 1) Classification of districts is done based on population as per Census 2011.

***2)** Mumbai Metropolitan Region (MMR), National Capital Region (NCR), Bengaluru and Kanpur have each been considered as a district.*
3) MMR includes Thane and Mumbai, NCR includes Delhi, Gurugram, Gautam Buddha Nagar, Ghaziabad and Faridabad, Bengaluru includes Bangalore Urban and Bangalore Rural, Kanpur includes Kanpur Nagar and Kanpur Dehat
Source: RBI, CRISIL Research

Digitisation, aided by technology to, play a pivotal role in growth of economy…

Technology is expected to play an important role by progressively reducing the cost of reaching out to smaller markets. India has seen a tremendous rise in fintech adoption in the past few years and has the highest fintech adoption rate globally of 87%, which is significantly higher than the global average rate of 64% (Source: InvestIndia). Among the many initiatives by the Government, the Unified Payments Interface (UPI) is playing a pivotal role towards financial inclusion. It provides a single-click digital interface across all system for smartphones linked to bank accounts and facilitates easy transactions using a simple authentication method. The volume of digital transactions has also surged in the past few years, driven by an increased adoption of UPI. Apart from the financial services industry, digitisation in other industries like retail will also play an important role in growth of economy.

UPI usage data statistics

As of month end	No of banks live on UPI	Volume of transactions (million)	Amount of transactions (Rs. billion)	YoY growth (on value basis) in transactions (%)
March 2017	49	9	28	NA
March 2018	91	178	242	764%
March 2019	142	800	1,335	452%
March 2020	148	1,247	2,065	55%
March 2021	216	2,731	5,048	144%
September 2021	259	3,654	6,543	98%

Source: National Payments Corporation of India (NPCI)

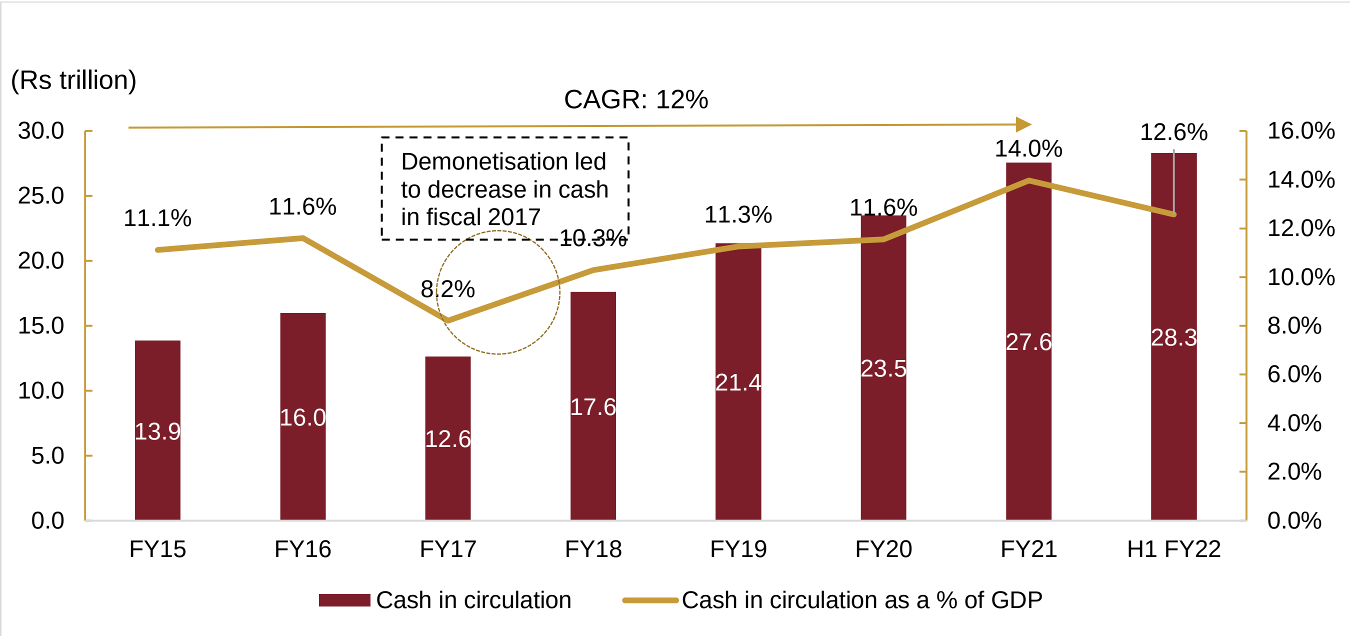
Over the years, India has witnessed a strong push from government to improve the digital payments infrastructure in the country. Recently, on August 2, 2021, a digital payment instrument, namely e-RUPI, was launched. This instrument is developed over the existing UPI platform by National Payments Corporation of India (NPCI), in collaboration with Department of Financial Services, Ministry of Health and Family Welfare and the National Health Authority. e-RUPI is a cashless and contactless instrument for digital payment. It is a QR code or SMS string-based e-voucher, which is delivered to the mobile of the beneficiaries. The users of this seamless one-time payment mechanism will be able to redeem the voucher without a card, digital payments app or internet banking access, at the merchants accepting e-RUPI. e-RUPI would be shared with the beneficiaries for a specific purpose or activity by organizations or Government via SMS or QR code.

…Cash transactions to also continue to grow alongside digital transactions

Globally, it has been observed that cash still remains a very popular medium of transactions and cash in circulation has continued to grow, despite a growing array and wider adoption of digital payments. In India also, it is observed that the trend is no different.

Despite the sharp rise in digital payments enabled through strong government focus and the creation of technology backbone, cash in circulation in the country has increased post demonetisation of high value currency notes in November 2015, indicating a predominant presence of cash and preference for usage of cash amongst various sections of the economy. This means that there is still a lot of untapped potential in offering technology-based solutions making cash withdrawals and other related services much easier for customers.

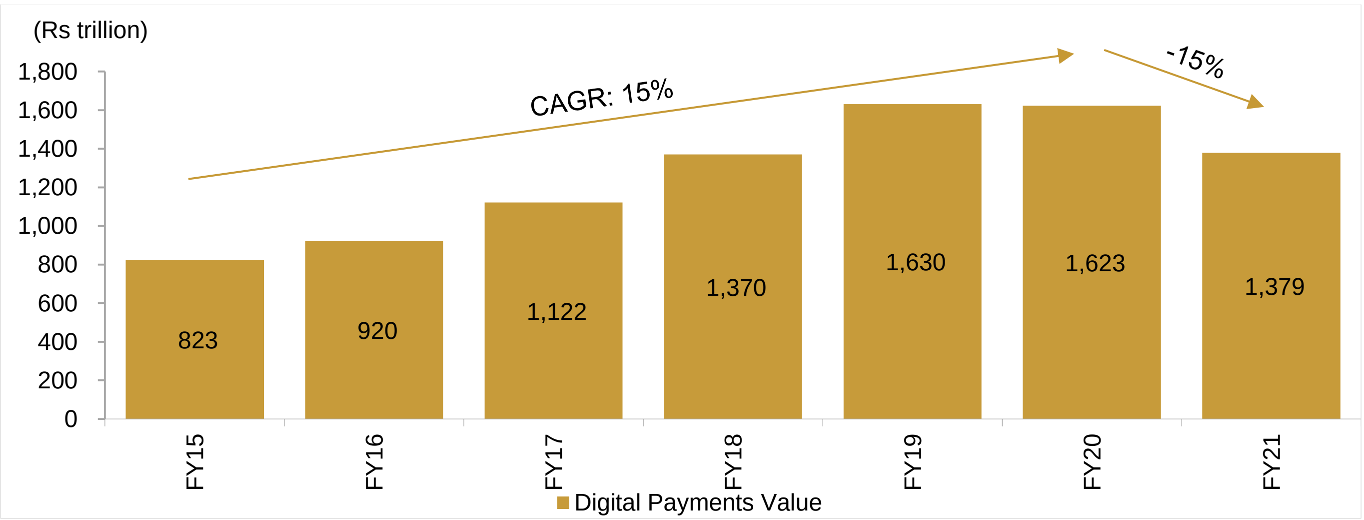
Cash in circulation has grown at 12% CAGR between fiscal 2015 and fiscal 2021 to reach 14% of GDP in FY21



Source: RBI, CRISIL Research

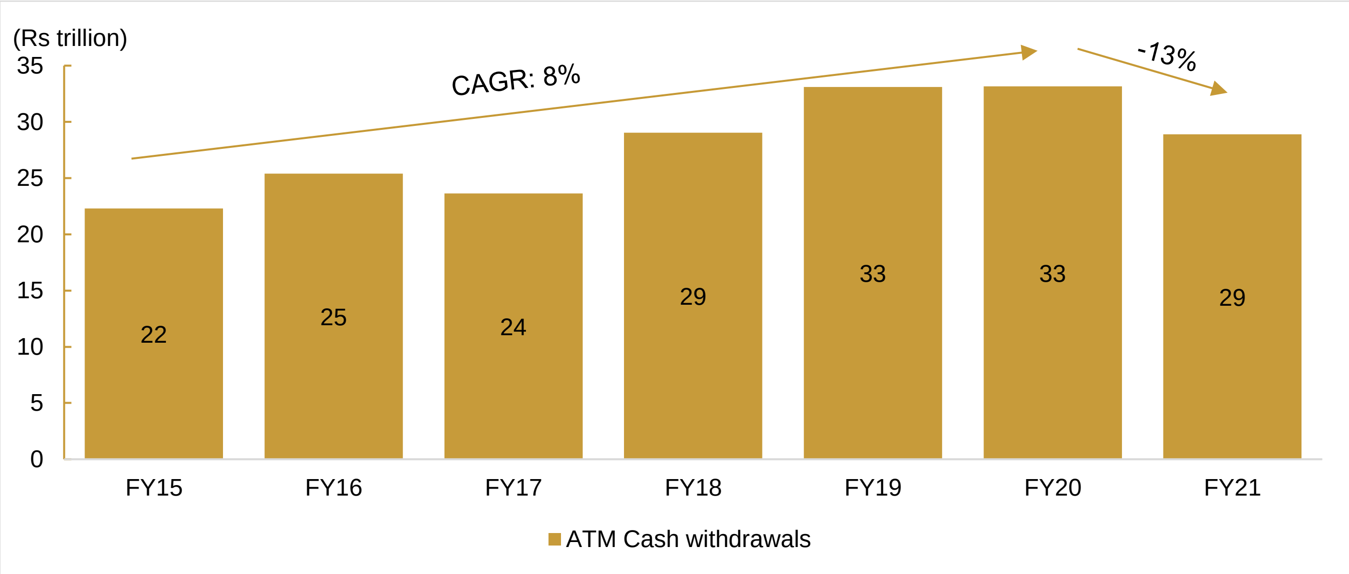
The concurrent rise in both digital payments and cash withdrawals indicates that while digital payments are increasingly becoming popular, cash also remains a significant mode of doing day-to-day transactions, especially in semi-urban and rural areas. The lack of trust in technology, limited awareness, inadequate payment infrastructure, and poor network connectivity in these areas has restricted digital transactions and discouraged people from using these payment modes. As a result, cash is still a preferred mode of payment in semi-urban and rural India due to comfort in transacting through cash. Furthermore, public preference has shifted to withdrawing cash on an as-needed basis instead of making large withdrawals and storing cash at home. This has resulted in higher demand for cash-out infrastructure; for example, earlier, in urban cities, consumers used to withdraw bulk cash in one transaction at the month beginning and pay expenses. Now while the consumers have moved to digital channels, they visit ATM and do multiple transactions of smaller tickets. This phenomenon is observed across different types of consumers, whether for blue collar workers, farmers, etc. Deposits with banks have also swelled over the last couple of years, which is reflected in the rise in currency in circulation.

Digital payments have grown at a 15% CAGR between fiscal 2015 and 2020



Note: Digital transactions includes Retail Electronic Clearing, PPIs, RTGS – excluding interbank clearing, ECS, NEFT, IMPS, UPI, Mobile Banking, NACH & card transactions at POS terminals
Source: RBI, CRISIL Research

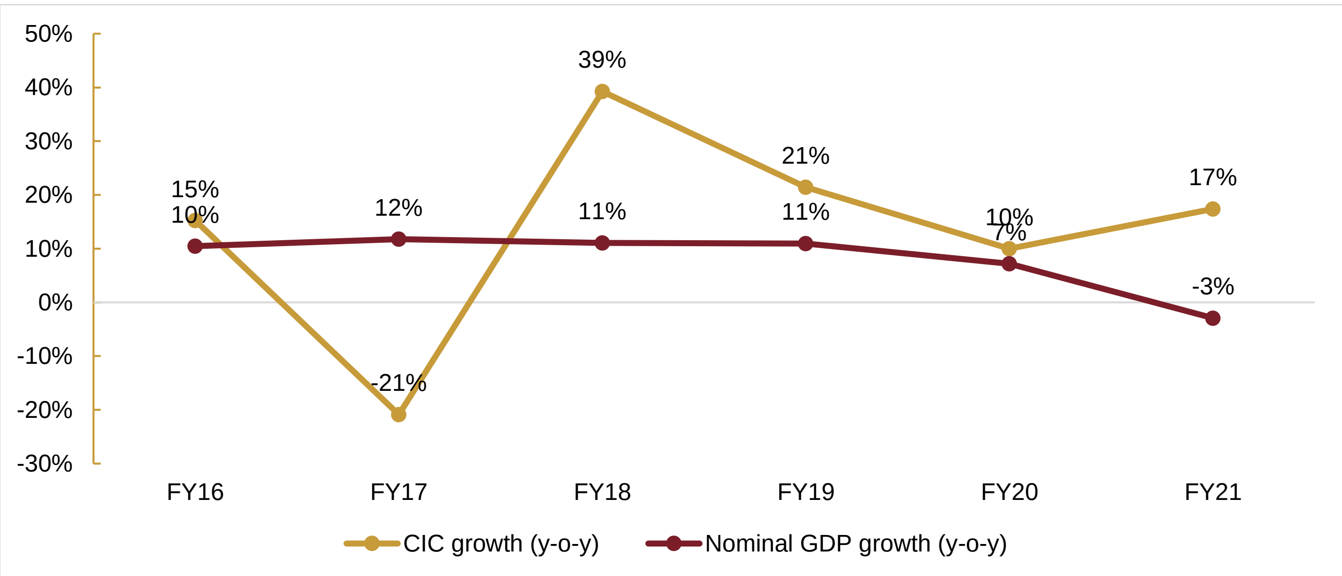
Cash withdrawals from ATMs have a growth at 8% CAGR over fiscal 2015 and fiscal 2020



Source: RBI, CRISIL Research

In fact, in each of the years following demonetisation, cash in circulation (Currency with public) has grown at a higher rate year-on-year compared to the nominal GDP growth indicating the significance of cash in the economy. In fiscal 2021, when the country was hit by the pandemic and the GDP declined, cash in circulation grew by 17% to reach Rs 27.6 trillion in value. Cash in circulation to GDP ratio has touched 14% as of March 2021 from 8.3% as of March 2017.

Cash in circulation has grown more than the nominal GDP every year after demonetisation



Note: GDP for fiscal year is considered and Cash in circulation at the end of the year is considered for calculation

Source: RBI, CRISIL Research

Rural economy is becoming structurally far more resilient

At a time when the Indian economy has been severely impacted by the COVID-19 pandemic, the rural economy, which accounts for almost half of India's GDP, has been a harbinger of hope. Rural India emerged relatively unscathed from the first Covid-19 wave due to lower spread of the pandemic in these areas, agricultural activity continuing unhindered, additional support offered by the government by increasing allocation under the Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) and disbursing funds under the PM-Kisan scheme, and the relatively lower contribution of services, most badly hurt due to the pandemic, in the rural GDP. Further, higher Government procurement of food grains to support the Pradhan Mantri Garib Kalyan Anna Yojana, also spurred higher production.

The second wave of Covid-19 has had some impact in rural India, thereby hurting household balance sheets. This, along with the progress of the monsoons and sowing activity in respect of kharif crops, would influence rural incomes in the near-term.

Nevertheless, CRISIL Research believes that the rural economy is far more resilient today due to two consecutive years of good monsoon, increased spends under MNREGA and irrigation programmes, direct benefit transfer (DBT), the PM-Kisan scheme, PM Ujwala Yojana for cooking gas, PM Awas Yojana for housing, and Ayushman Bharat scheme for healthcare. To supplement this, there has been a continuous improvement in rural infrastructure such as electricity and roads. These Government initiatives have led to lesser leakages and higher incomes in the hands of the rural populace, thereby enhancing their ability and willingness to spend on discretionary products and services.

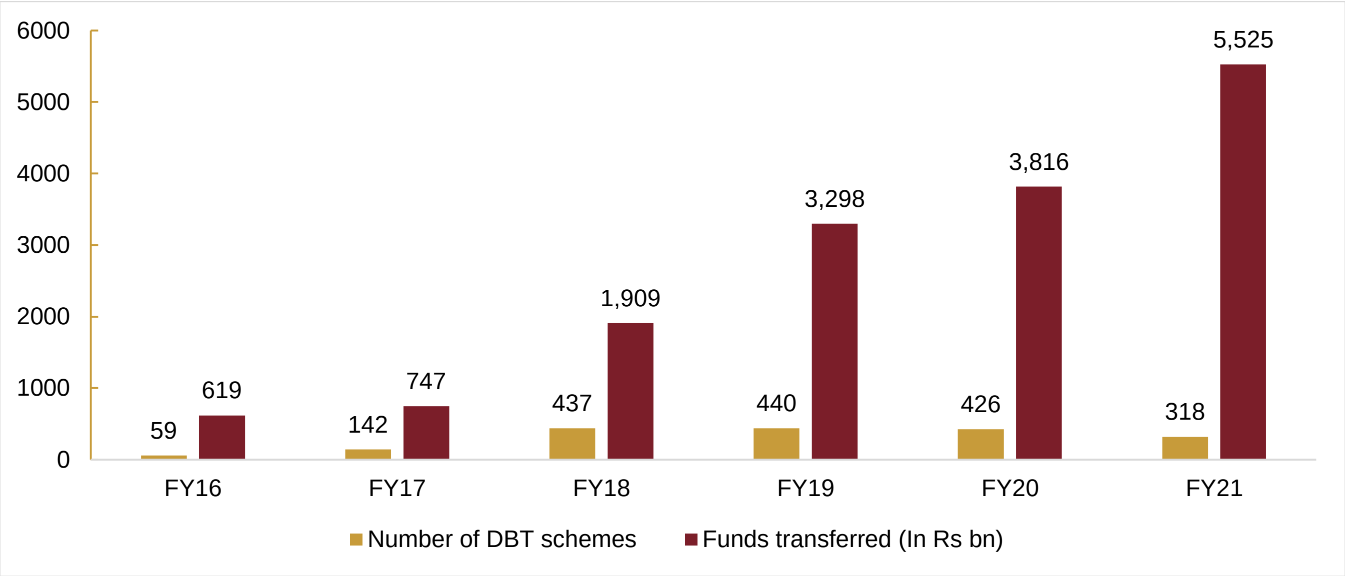
Through Direct Benefit Transfer, the government has transferred more than Rs 5.5 trillion in fiscal 2021 under 318 schemes. In the coming years as well, CRISIL Research expects DBT transfers to continue to increase at a healthy pace, as the government tightens focus on making subsidies available directly in the account of the intended beneficiaries.

Details of Direct Benefit Transfer Schemes (fiscal 2021)

Scheme Group Name	Total Direct Benefit Transfer (in Rs. Billion)	Total No. of transactions (in crores)
PAHAL	150.54	111.14
MGNREGS	672.18	47.55
NSAP	72.30	20.38
SCHOLARSHIP SCHEME	91.21	1.30
PMAYG	482.51	1.25
PDS	1,670.99	243.84
FERTILIZER	836.60	7.90
OTHERS	1,548.91	170.05
TOTAL	**5525.27**	**603.43**

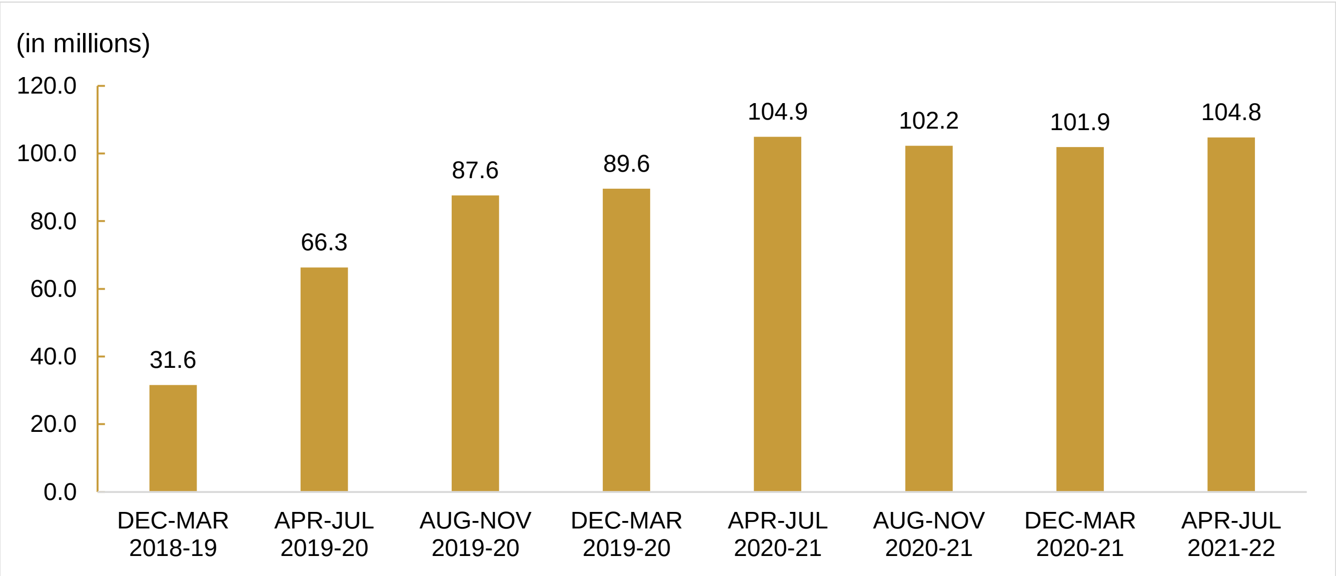
Source: DBT Bharat[6], CRISIL Research
Note:
PAHAL - Pratyaksh Hanstantrit Labh
MGNREGS – Mahatma Gandhi National Rural Employment Guarantee Scheme
NSAP – National Social Assistance Scheme
Scholarship Scheme - Scheme of National Fellowship for providing scholarships to Scheduled Caste students to pursue programmes in Higher Education
PMAYG – Pradhan Mantri Awaas Yojana Gramin
PDS – Public Distribution Scheme

The government has transferred more than Rs 5.5 trillion in fiscal 2021 through 318 schemes



Source: DBT[6], CRISIL Research

PM Kisan period wise number of payments



Source: Ministry of Rural development, CRISIL Research

The structural changes, combined with a positive macro environment, will improve rural business prospects, provide business opportunities for the banking and financial services sector and drive the long term growth of the economy.

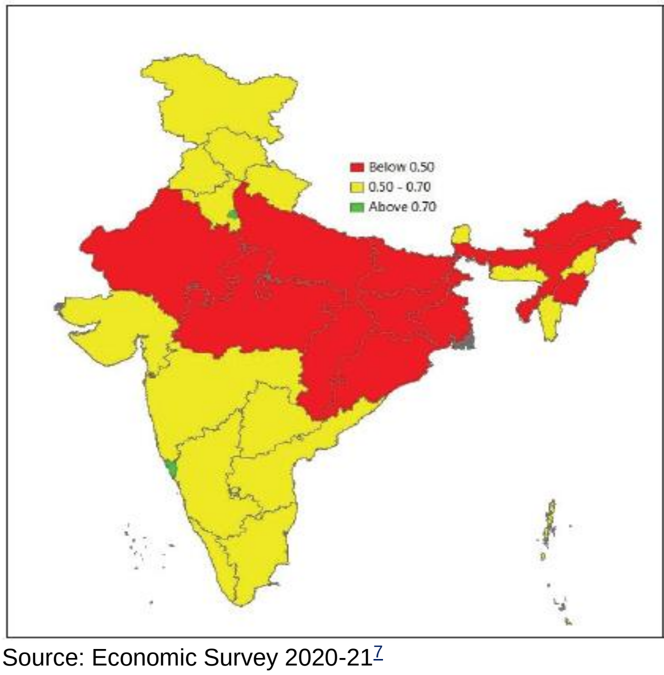
Access to bare necessities across rural areas has improved considerably over the last few years

The bare necessities index (BNI), which was included as part of the Economic Survey for 2020-21, indicates how the access to bare necessities in semi-urban and rural areas has improved considerably in the last few years, thereby enhancing the quality of life and aspirations of the populace.

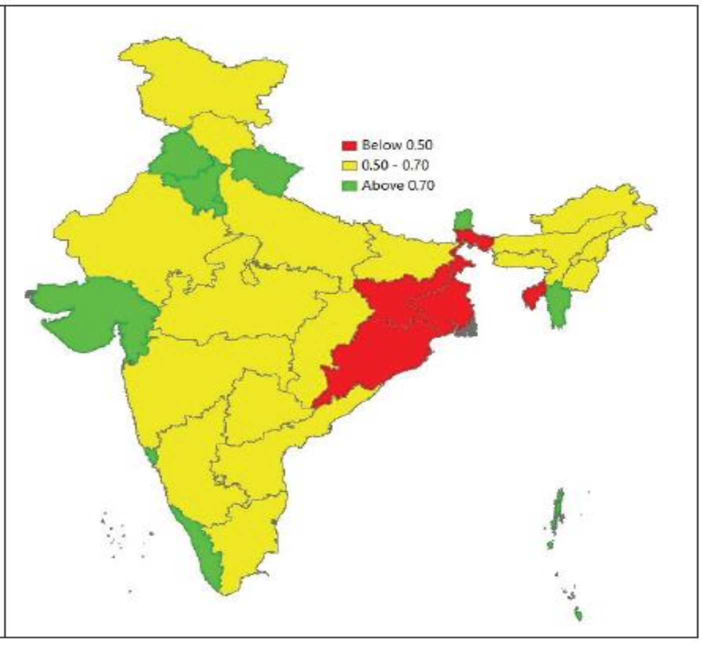
The BNI summarises 26 indicators on five dimensions viz., water, sanitation, housing, micro-environment, and other facilities. The BNI has been created for all states for 2012 and 2018 using data from two NSO rounds (69th and 76th) on drinking water, sanitation, hygiene and housing conditions in India. The BNI indicates that access to the bare necessities has improved across all States in the country in 2018 as compared to 2012. Access to bare necessities is the highest states such as Kerala, Punjab, Haryana and Gujarat while it is the lowest in Odisha, Jharkhand, West Bengal and Tripura. The improvements are widespread as they span each of the five dimensions. Furthermore, inter-state disparities in the access to bare necessities have declined in 2018 when compared to 2012 across rural and urban areas. This is because the states where the level of access to the bare necessities was low in 2012 have gained relatively more between 2012 and 2018. Access to the bare necessities has improved disproportionately more for the poorest households when compared to the richest households across rural and urban areas.

The below graphs indicate the state-wise values of BNI in 2012 and 2018 for India as a whole as well as urban and rural areas. A higher value indicates better access to bare necessities in a state ad vice-versa. The three colours, green, yellow and red, used in the maps show the level of a state in providing access to bare necessities to its households. Green (above 0.70) indicates high level, followed by yellow (0.50 to 0.70), which indicates medium level. In contrast, red (below 0.50) indicates very low level of access. The difference in colours in a map indicate the regional variation in the access to bare necessities for the households.

Pan-India BNI (Urban + Rural in 2012)



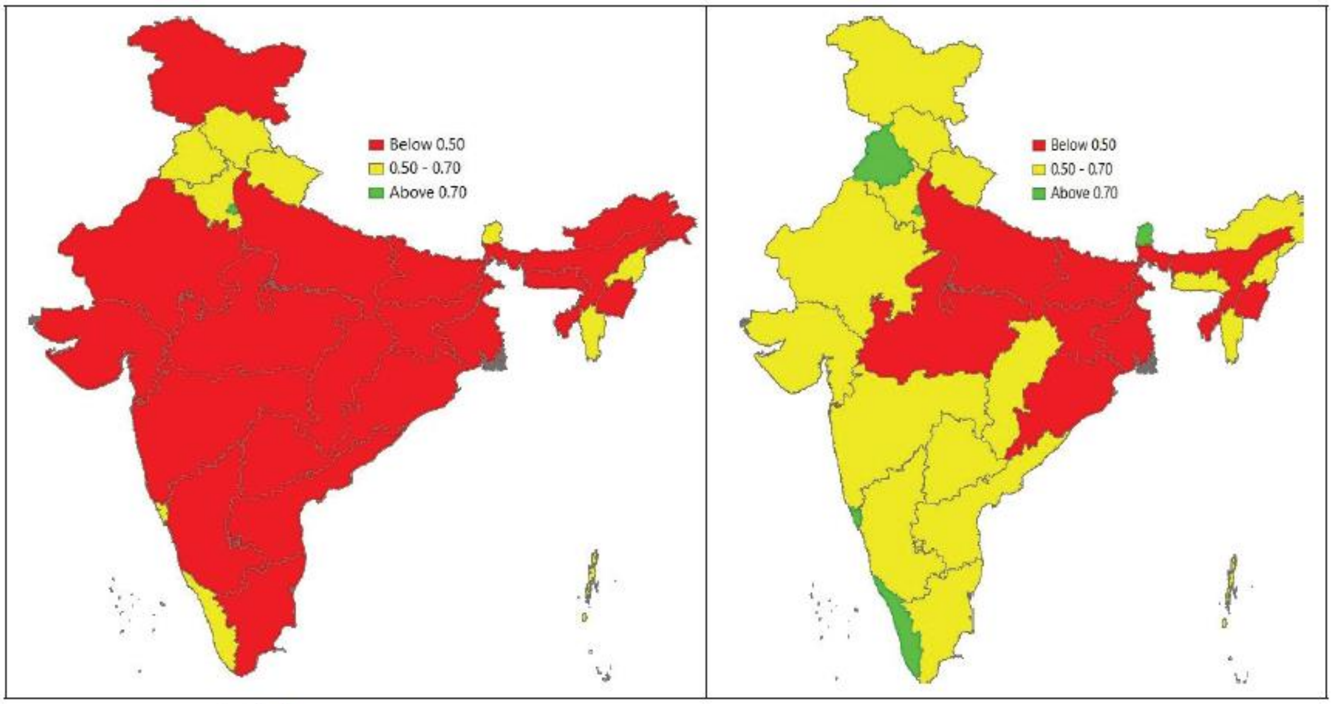
Pan-India BNI (Urban + Rural in 2018)



Source: Economic Survey 2020-21[7]

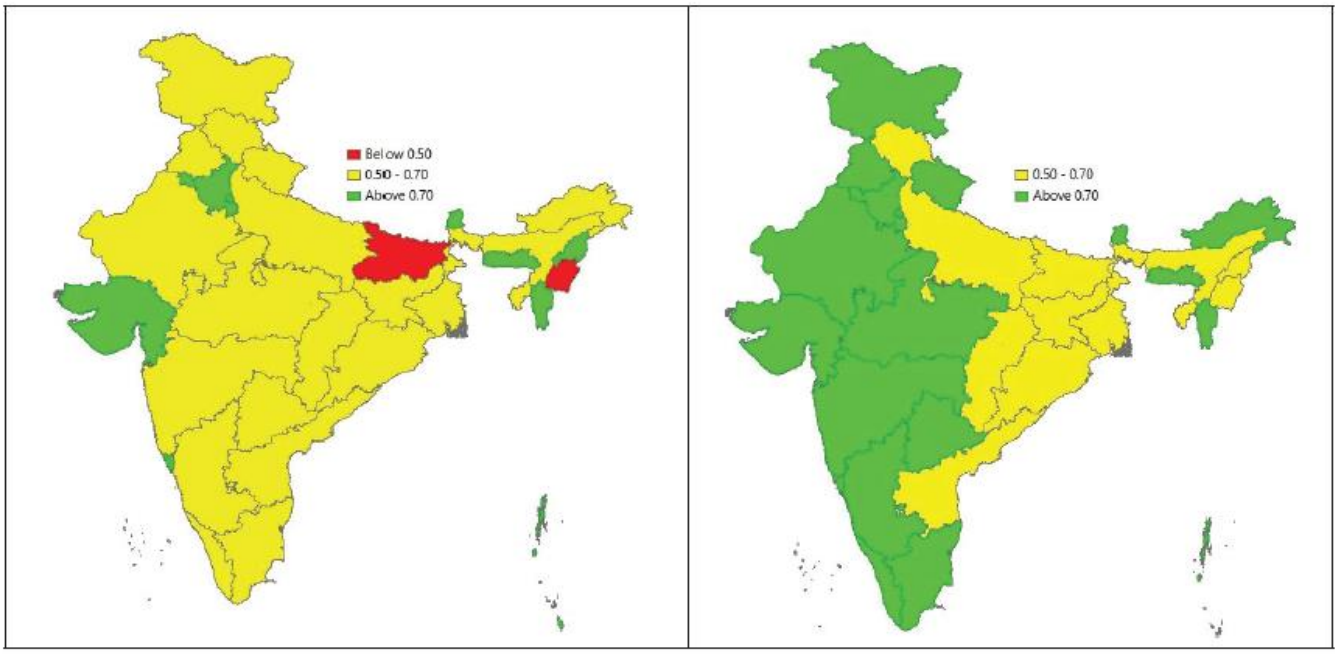
BNI for Rural India (2012)

BNI for Rural India (2018)



Source: Economic Survey 2020-21[7]

BNI for Urban India (2012) **BNI for Urban India (2018)**



Source: Economic Survey 2020-21[7]

Measures to counter the pandemic's onslaught on growth

Reserve Bank of India goes all out to combat the crisis

The Monetary Policy Committee (MPC) of the Reserve Bank of India (RBI) slashed the repo rate by 115 basis points (bps) to address financial market stress in the wake of the pandemic and the subsequent lockdown. In an unusual move, the MPC also asymmetrically slashed the reverse repo initially by 90 bps and by another 25 bps and 40 bps subsequently. The repo and reverse repo rates stand at 4.00% and 3.35%, respectively as of June 2021. To tide over any unwarranted volatility, the MPC also increased borrowing limits under the marginal standing facility (MSF) of the liquidity adjustment facility window from 2% to 3%. The MSF rate stands at 4.25% (down from 5.40%) as of June 2021.

The RBI also announced a host of other measures to address financial market stress due to the pandemic / lockdown:

- **Reducing debt servicing burden through moratorium period:** The RBI initially permitted lending institutions to allow a moratorium of three months on repayment of instalments for term loans outstanding as on March 1, 2020 and defer interest payments due on working capital facilities outstanding. The moratorium was further extended by another three months till August 31, 2020. However, the banks were instructed to provide 10% additional provisioning for availing this benefit, which could be later adjusted against the provisioning requirements for actual slippages. These measures are intended to boost confidence in the economy and provide relief to the borrowers

- **Loan restructuring:** The central bank constituted a committee which identified 26 sectors for restructuring which included aspects related to leverage, liquidity and debt serviceability to be factored by the lending institutions while finalising resolution plans for borrowers. However, only those borrower accounts would be eligible for resolution which were classified as standard, but not in default for more than 30 days with any lending institution as on March 1, 2020

- **Enhancing liquidity**: Apart from reducing repo and reverse repo rate, the RBI reduced the cash reserve ratio (CRR) requirements of all banks by 100 bps to 3% of net demand and time liabilities (NDTL). Further, the minimum daily CRR balance maintenance was reduced to 80% from 90% till June 26, 2020. In view of the exceptionally high volatility in domestic financial markets, the RBI also increased MSF borrowing limit from 2% to 3% of bank's NDTL up to June 30, 2020

- **Supporting financial market liquidity:** The RBI initially announced targeted long-term repo operations (TLTROs) of up to three years' tenure for a total of up to Rupees 1 trillion. Liquidity availed under the scheme by banks had to be deployed in investment grade corporate bonds, commercial paper, and non-convertible debentures. Subsequently, TLTROs worth Rupees 500 billion were announced specifically for NBFCs and mutual fund institutions (MFIs), with 50% targeted towards small and mid-sized firms. Investments made by banks under this facility would be classified as held to maturity (HTM), and also be excluded under the large exposure framework

- **Pushing credit growth:** The RBI decided to postpone the implementation of net stable funding ratio to April 1, 2021 to encourage banks to lend in these challenging times. Deferring the last tranche of capital conservation buffer to April 1, 2021 was also a step in the same direction. The central bank also announced Rupees 500 billion refinancing facility for NABARD (Rupees 250 billion), SIDBI (Rupees 150 billion) and NHB (Rs100 billion) to increase credit availability to micro, small and medium enterprises (MSMEs) and the housing sector

- **Addressing rupee volatility:** Banks in India which operate International Financial Services Centre banking units have been allowed to participate in the Non-deliverable Forward (NDF) market with effect from June 1, 2020

- **Regulatory changes:** With regards to the moratorium provided on loans, the RBI clarified these measures would not result in asset quality downgrade, nor would it affect the credit history of borrower

- **Measures during second wave of COVID-19:** In May 2021, RBI announced several measures to protect small and medium businesses and individual borrowers from the adverse impact of the intense second wave of COVID-19 across the country. Restructuring framework 2.0 was announced wherein individuals and MSMEs having aggregate loan exposure of up to Rs. 250 million, who have not availed restructuring under any of the earlier restructuring frameworks (including under the Resolution Framework 1.0 dated August 6, 2020), and who were classified as 'Standard' as on March 31, 2021, were allowed to restructure their loans. Restructuring under the proposed framework may be invoked up to September 30, 2021 and has to be implemented within 90 days after invocation. Further, for small businesses and MSMEs restructured earlier, banks and NBFCs have also been permitted, as a one-time measure, to review the working capital sanctioned limits, based on a reassessment of the working capital cycle, margins, etc. The RBI also permitted modification of plans under Restructuring framework 1.0 by increasing the period of moratorium and/or extending the residual tenor up to a total of 2 years.

  Additionally, the RBI incentivised small finance banks (SFBs) to increase credit flow to small borrowers in two ways: one, by opening a special long-term repo operation (SLTRO) window of Rs. 100 billion for small finance banks (SFBs) for extending loans of up to Rs. 1 million to individuals and small businesses; and two, by classifying on-lending by SFBs to small MFIs with assets as less than Rs. 5 billion as priority sector lending. The facility will be available till October 31, 2021 and the RBI will hold an auction every month for this facility. In the may auction, the response from SFBs was muted where only Rs. 4 billion was auctioned out of the 100 billion facility. This was majorly because of ample liquidity with the small finance banks owing to lower credit demand in Fiscal 2021.

  In June 2021, the RBI further enhanced the exposure limit for availing restructuring under restructuring framework 2.0 from Rs. 250 million to Rs. 500 million.

'Aatmanirbhar' package is a timely relief amid the pandemic

Liquidity boost for NBFCs

The Government announced a Rupees 450 billion partial guarantee scheme (for NBFCs) and Rupees 300 billion special liquidity scheme for NBFCs, housing finance companies (HFCs) and MFIs, aimed at covering the concern of credit risk perception on mid and small size non-banks.

Collateral-free loans to MSMEs (Rupees 3 trillion)

Banks and NBFCs are directed to offer up to 20% of entire outstanding credit to MSMEs. MSMEs with up to Rupees 250 million outstanding credits and Rupees 1 billion turnover are eligible for these loans. It will have four-year tenure with a moratorium of 12 months on principal payment and can be availed till October 31, 2020. The Government will provide complete credit guarantee cover to lenders on principal and interest amount.

Subordinate debt to MSMEs (Rupees 200 billion)

The Government is also facilitating the provision of Rupees 200 billion as subordinate debt for stressed assets of MSMEs. It will also provide Rupees 40 billion as partial credit guarantee support to banks for lending to MSMEs.

Equity infusion in MSMEs (Rupees 500 billion)

The Government has committed to infuse Rupees 500 billion in equity of MSMEs having growth potential and viability. It will also encourage MSMEs to list on stock exchanges.

Clearing MSME dues; guarantee scheme

The Government has requested central public sector enterprises to release all pending MSME payments within 45 days. It will boost transaction-based lending by fintech enterprises. Under the Emergency Credit Line Guarantee Scheme (ECLGS), banks will offer Rupees 3 trillion Government guaranteed loans to MSME borrowers that are not non-performing assets (NPAs) to address short-term liquidity concerns and boost the MSME sector.

Global tenders disallowed up to Rupees 2 billion

The Government will not allow foreign companies in Government procurement tenders of value up to Rupees 2 billion. This is likely to ease the competition faced by the MSMEs against foreign companies.

Loan interest subvention scheme (Rupees 15 billon)

Under this scheme, the Government has provided 2% interest subvention for loans given under Mudra-Shishu scheme. These loans are up to the ticket size of Rupees 50,000 and are mostly given by NBFC-MFIs that benefit low income groups customers.

Special credit facility for street vendors (Rupees 50 billon)

The Government announced this scheme to facilitate easy access of credit to street vendors to offset the adverse effect of pandemic on their livelihoods.

‘Aatmanirbhar 3.0’ stimulus package rolled out to boost economy in November 2020

The finance minister, on November 12, 2020, announced a stimulus package. Under the package, 12 stimulus measures were rolled out to boost employment in the formal and informal economy, help housing infrastructure, enhance ease of doing business, extend the deadline for the Credit Line Guarantee Scheme, etc. The announcement was made a day after the Government announced new production-linked incentives (PLIs) under another Rupees 2 trillion PLI scheme for 10 major manufacturing sectors. The Government also announced some fresh projects, collaterally boosting employment in the country.

An additional outlay of Rupees 180 billion for PM Awaas Yojana (PMAY) Urban was announced, which will help ground 1.2 million houses and complete 1.8 million houses. The move is expected to create additional 7.8 million jobs and improve production and sale of steel and cement, resulting in a multiplier effect on the economy. Stimulus packages worth Rupees 2.65 trillion were announced by the Government.

Following are the twelve announcements made in the Aatmanirbhar 3.0 stimulus package:

1. Aatmanirbhar Bharat Rozgar Yojana: Aatmanirbhar Bharat Rozgar Yojana, operational during October 1, 2020 to June 2021 to incentivise creation of new employment opportunities during COVID recovery phase.

2. Emergency credit line guarantee scheme 2.0: Launch of an emergency credit line guarantee scheme 2.0 for guaranteed credit to 26 stressed sectors. Tenure of additional credit under ECLGS 2.0 to be 5 years, including 1 year of moratorium on principal repayment. Emergency credit line guarantee scheme extended till March 31 2021.

3. PLI scheme: Introduction of the PLI scheme in 13 key sectors for enhancing India's manufacturing capabilities and exports.

4. PMAY **–** Urban**:** Rupees 180 billion will be provided over the Budged Estimates for 2020-21 for PM Awaas Yojana (PMAY) **-** Urban through additional allocation and extra-budgetary resources. This is over and above the Rupees 80 billion already budgeted this year.

5. Support for construction and infrastructure **-** Relaxation of earnest money deposit (EMD) and performance security on Government tenders.

   - Performance security on contracts to be reduced to 3% instead of 5-10%
   - EMD will not be required for tenders and will be replaced by Bid Security Declaration
   - Relaxations will be given till December 31, 2021

6. Demand booster for residential real estate income-tax relief for developers and home buyers: Increase in the differential from 10% to 20% for the period from the date of the announcements to June 20, 2021 for only primary sale of residential units of value up to Rupees 2 billion.

7. Government will invest Rupees 60 billion as equity in the NIIF debt platform. Infra project financing of Rupees 1.1 trillion will be provided by the Government.

8. Government will provide support to farmers with Rupees 650 billion for subsidised fertilisers

9. Boost for the rural employment -Enhanced outlays under PM Garib Kalyan Rozgar Yojana: Rupees 400 billion was additionally provided in Atmanirbhar Bharat 1.0. Further outlay of Rupees 100 billion to be provided for PM Garib Kalyan Rozgar Yojana in the current Fiscal.

10. Boost for exports - Rupees 30 billion to EXIM Bank for lines of credit: Rupees 30 billion will be released to EXIM Bank for promotion of project exports through lines of credit under the IDEAS scheme.

11. Capital and industrial stimulus: Rupees 102 billion additional budget outlay will be provided towards capital and industrial expenditure.

12. Research and development grant for COVID-19 vaccine development: Rupees 9 billion provided for COVID Suraksha Mission for research and development of an Indian COVID-19 vaccine to the Department of Biotechnology

Scope of ECLGS Scheme further expanded post the COVID-19 wave

Recently in September 2021, with a view to support various businesses impacted by the second wave of COVID 19 pandemic, the timeline for Emergency Credit Line Guarantee Scheme (ECLGS) has been extended till March 2022 or till guarantees for an amount of Rs 4.5 trilllion are issued under the scheme, whichever is earlier. Further, the last date of disbursement under the scheme has also been extended to June 2022. As of September 24, 2021, loans sanctioned have crossed Rs 2.86 trillion under the scheme.

In June 2021, the government increased the overall admissible guarantee limit from Rs 3.0 trillion to Rs 4.5 trillion. Along with this, the limit of admissible guarantee and loan amount is increased from 20% to 40% of outstanding for Covid-affected sectors like Hospitality sector, Travel & Tourism sector, Leisure & Sporting sector and Civil Aviation sector, subject to a maximum of Rs.200 crore per borrower.

Earlier, in May 2021, the Government announced the following further modifications to the ECLGS scheme:

- The scope was expanded to cover loans up to Rs. 20 million to hospitals/nursing homes/clinics/medical colleges for setting up on-site oxygen generation plants with interest rate capped at 7.5%
- Additional ECLGS assistance of up to 10% of the outstanding loans as on February 29, 2020 to borrowers covered under ECLGS 1.0 was allowed
- Civil Aviation sector was included in the list of sectors covered
- Ceiling of Rs. 5 billion of loan outstanding for eligibility under ECLGS 3.0 was removed, subject to maximum additional ECLGS assistance to each borrower being limited to 40% or Rs. 2 billion, whichever is lower
- Borrowers who had availed loans under ECLGS 1.0 of overall tenure of 4 years comprising of repayment of interest only during the first 12 months with repayment of principal and interest in 36 months were allowed to increase the tenure to 5 years (repayment of interest only for the first 24 months with repayment of principal and interest in 36 months thereafter)

Earlier, in March 2021, the Government had made the following modifications to the scheme

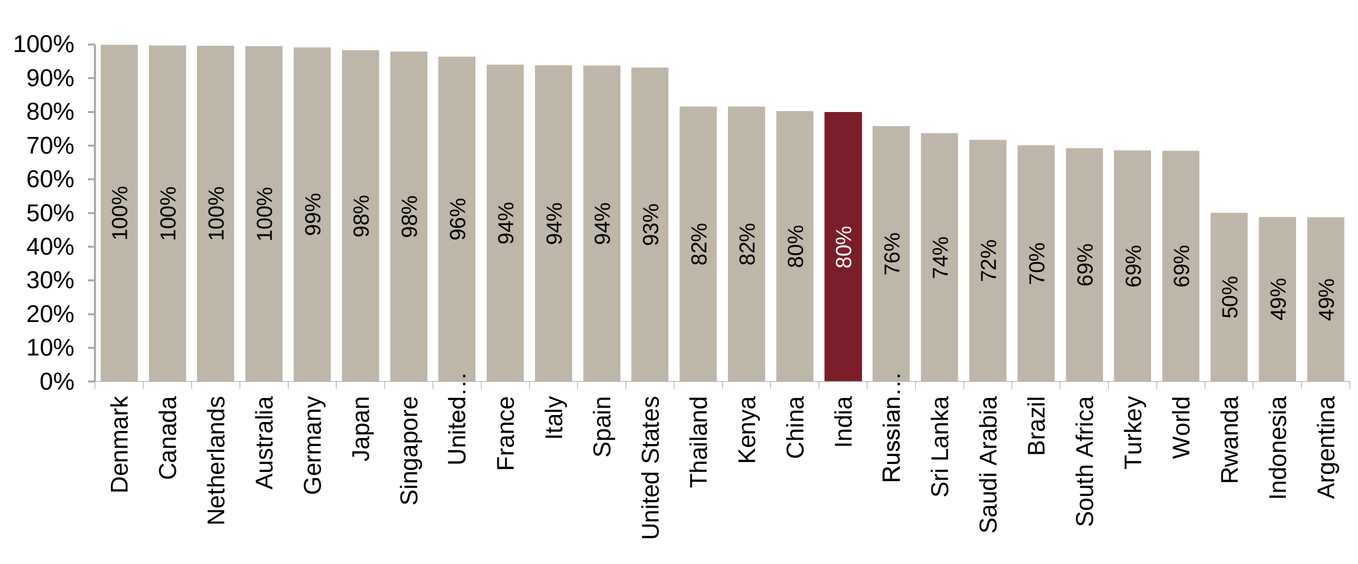
- The scope of ECLGS was expanded to cover business enterprises in hospitality, travel & tourism, leisure & sporting sectors which had, as on February 29, 2020, total credit outstanding not exceeding Rs. 5 billion and were less than or equal to 60 days past due as on that date.
- The validity of ECLGS was extended up to June 30, 2021 or till guarantees for an amount of Rs. 3 trillion are issued.

Key structural reforms: Long-term positives for the Indian economy

Financial inclusion

According to the World Bank's Global Findex Database 2017, the global average of adult population with an account (with a bank, financial institution, or mobile money providers) was ~69% in 2017. India's financial inclusion has improved significantly in the past three years. The adult population with bank accounts rose from 53% (as per Global Findex Database 2014) to 80% in 2017 (*Source: Global Findex Database*) with the Government's concentrated efforts to promote financial inclusion and the proliferation of supporting institutions.

Adult population with a bank account (%): India vis-à-vis other countries



Note: 1. Global Findex data for India excludes northeast states, remote islands and selected districts. 2. Account penetration is for the population within the age group of 15+

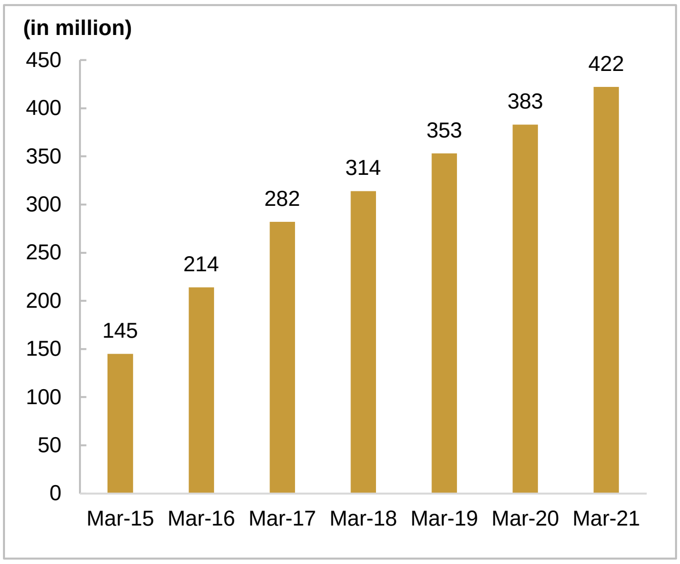
Source: World Bank - The Global Findex Database 2017, CRISIL Research

The two key initiatives launched by the Government to promote financial inclusion are the Pradhan Mantri Jan Dhan Yojana ("**PMJDY"**) and Pradhan Mantri Jeevan Jyoti Bima Yojana (**"PMJJBY"**). Under the PMJDY, the Government's aim is to ensure that every household in India has a bank account which they can access from anywhere and avail of all financial services such as savings and deposit accounts, remittances, credit and insurance affordably. PMJJBY is a one-year life insurance scheme that offers a life cover of Rs. 0.2 million at a premium of Rs. 330 per annum per member, which can be renewed every year. The Government has also launched the Pradhan Mantri Suraksha Bima Yojana (PMSBY), an accident insurance policy that offers an accidental death and full disability cover of Rs. 0.2 million at a premium of Rs. 12 annually. As per the Government, more than 100 million people have registered for these two social security schemes.

PMJDY launched in August 2014, is aimed at ensuring that every household in India has a bank account which they can access from anywhere and avail of all financial services such as savings and deposit accounts, remittances, credit and insurance affordably. PMJDY focuses on household coverage compared to the earlier schemes that focused on coverage of villages. It aims to extend banking facilities to all within a reasonable distance in each sub-service area (consisting of 1,000-1,500 households) across India.

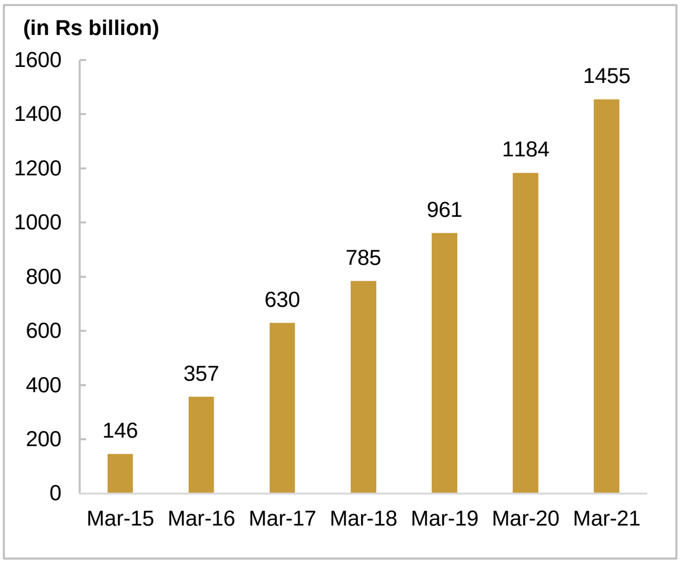
The number of Jan Dhan accounts opened under PMJDY scheme have increased from 353 million in fiscal 2019 to 383 million in fiscal 2020 to 422 million in fiscal 2021. Out of these, as of March 31, 2021, 66% were in rural and semi-urban areas, with total deposits of Rupees 1,455 billion. Under PMJDY, the beneficiaries have been issued RuPay debit cards, which has been a key enabler of rural participation in the financial system. As of March 31, 2021, 309 million RuPay debit cards have been issued to 422 million PMJDY beneficiaries. Out of these, 66% of the beneficiaries belong to rural and semi-urban areas.

Number of PMJDY accounts



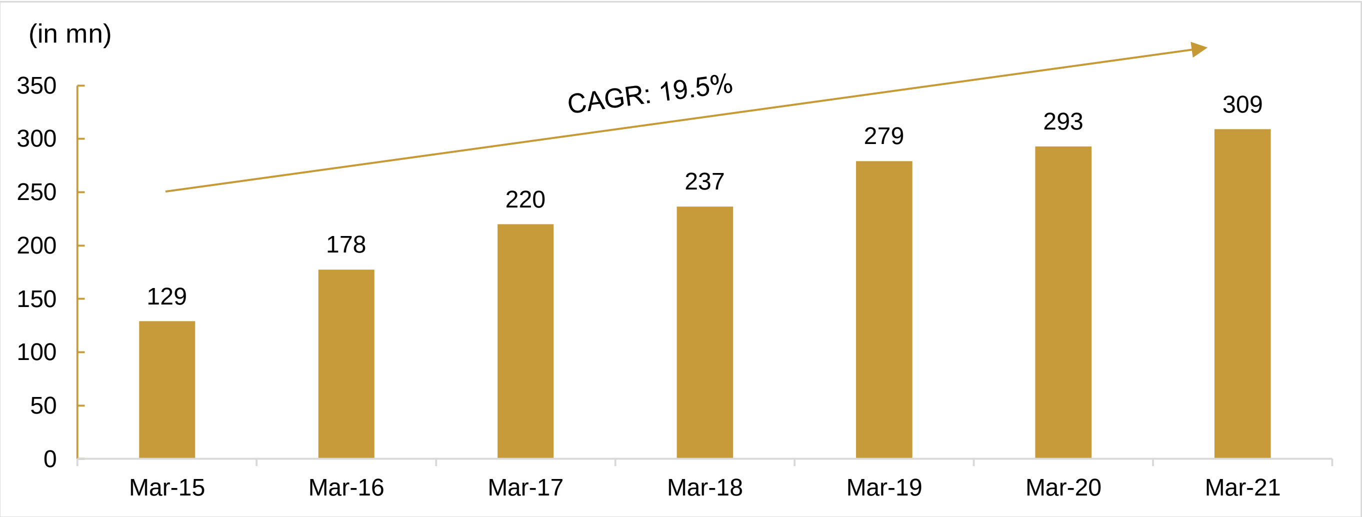
Source: PMJDY[8]*; CRISIL Research*

Total balance in PMJDY accounts



Source: PMJDY[8]*; CRISIL Research*

Number of RuPay debit cards issued under PMJDY



Source: PMJDY[8]*, CRISIL Research*

GST implementation

Introduced on July 1, 2017, the GST is an indirect tax regime that subsumed multiple cascading taxes levied by the central and state Governments. Its implementation has spawned structural changes in the supply chain and logistics network in the country. The crux of the GST mechanism is input tax credit, which ensures that more players in the supply chain come under the tax ambit. As supply from only registered taxpayers will get input tax credit, businesses and stakeholders will insist on registration of their suppliers and traders, leading to an increase in the share of organised participants. The GST regime has been stabilising fast and is expected to bring more transparency and formalisation, eventually leading to higher economic growth.

PLI scheme to boost manufacturing in the long run

The Government has budgeted ~Rs.2 trillion to give incentives to the locally manufacturing units to 13 key sectors. The key sectors likely to get benefit from the scheme include automobiles, pharma, telecom, electronics, food, textile, steel and energy. By incentivising production subject to achieving the desired scale, the scheme aims to spawn a handful of globally competitive large scale manufacturing units in the identified sectors. Furthermore, the Government also hopes to reduce India's dependence on raw material imports from China. The scheme is expected to provide a boost to economic growth over the medium-term and create more employment opportunities as many of these sectors are labour intensive in nature.

Broad Sector	Segment	Budgeted (Rs. Bn)*	
Automobiles	Advance Chemistry Cell (ACC) Battery	181	751
	Automobiles & auto components	570	
Electronics	Mobile manufacturing and specified electronic Components	409	521
	Electronic/technology products	50	
	White goods (ACs & LED)	62	
Pharma and medical equipment	Critical key starting materials/drug intermediaries and active pharmaceutical ingredients	69	253
	Manufacturing of medical devices.	34	
	Pharmaceuticals drugs	150	
Telecom	Telecom & networking products	122	122
Food	Food products	109	109
Textile	Textile products: MMF segment and technical textiles	107	107
Steel	Speciality steel	63	63
Energy	High efficiency solar PV modules	45	45
Total			**1,972**

**Approved financial outlay over a five-year period*
Source: Government websites; CRISIL Research

Affordable housing, transparency to bring moderate growth in investments

The residential real estate segment saw two policy changes, i.e., Real Estate (Regulation and Development) Act, 2016 (**"RERA"**) and GST, that have had a direct impact on the sector's supply-demand dynamics. Consequently, new launches have dropped sharply, with developers focusing on completing ongoing projects. The sector had been battling weak demand for the past couple of years, and a key reasons has been unaffordability since developers focused on middle and premium income-category projects. However, Government initiatives have prompted developers to explore affordable housing as a new area. Going ahead, about half of the incremental supply being added in urban stock is expected to be via affordable housing for the next few years. Additionally, formalisation of the industry is likely to bring in more transparency, thereby increasing customer demand.

In a major relief to real estate sector, the Government has extended the timelines of RERA projects by six months for projects expiring on or after March 25, 2020. Further, in affordable housing, it has extended the deadline to March 31, 2022, for first-time homebuyers to avail an additional Rs. 150,000 interest deduction on home loans. Hence, during Fiscals 2020-24, CRISIL expect overall residential construction to increase at 6-7% CAGR in value terms compared with -1.5% CAGR in the past five years, primarily driven by Pradhan Mantri Awas Yojana scheme, which is due for completion in CY2022.

IBC a key long-term structural positive

The Insolvency and Bankruptcy Code is a reform that will structurally strengthen the identification and resolution of insolvency in India. The IBC enhances the credit enforcement structure and provides certainty around the timeframes for insolvency resolution. It attempts to simplify legal processes, preserve value for creditors and provide them with greater certainty of outcome. With this reform, the RBI has sent a strong signal to borrowers to adhere to credit discipline and also encourage banks to break resolution deadlocks by introducing definite timelines. IBC will enhance investors' confidence when investing in India. Internationally, recovery rates have improved significantly after the implementation of bankruptcy reforms, as can be seen in the following table:

Country	Year of bankruptcy reform	Pre-reforms		Five years post-reforms	
		Recovery rate (%)	*Time (years)*	*Recovery rate (%)*	*Time (years)*
Brazil	2005	0.2	10.0	17.0	4.0
Russia	2009	28.2	3.8	42.8	2.0
China	2007	31.5	2.4	36.1	1.7
India	2016	26.0	4.3	43*	1.6*

*Note: * As of 2019*

Source: World Bank, CRISIL Research

Reduction in corporate tax rates to boost capital base of financial institutions

On September 20, 2019, the Finance Minister announced Taxation Laws (Amendment) Ordinance, 2019 to make certain amendments in the Income Tax Act, 1961, to allow any domestic company the option to pay income tax at the rate of 22%, subject to the condition that they will not avail of any exemption/incentive. The effective tax rate for these companies will be 25.17% inclusive of surcharge and cess. Also, such companies will not be required to pay minimum alternate tax.

A company that does not opt for the concessional tax regime and avails of the tax exemption/incentive will continue to pay tax at the pre-amended rate. However, these companies can opt for concessional tax regime after expiry of their tax holiday/exemption period. After the exercise of the option, they will be liable to pay tax at the rate of 22% and the option, once exercised, cannot be subsequently withdrawn. Further, in order to provide relief to companies which continue to avail of exemptions, the rate of minimum alternate tax has been reduced from 18.5% to 15%.

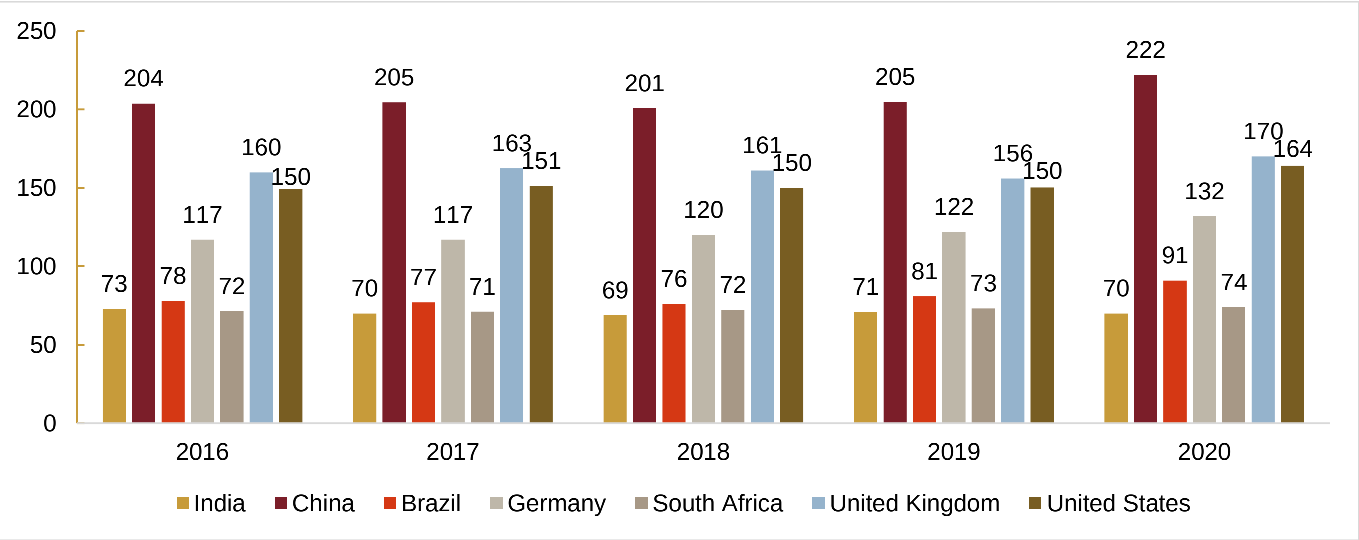
In addition, to stabilise the flow of funds in the capital market, the provision of not applying additional surcharge as per the Finance Act, 2019, on capital gains arising out of sale of equity share in a company or unit of equity oriented fund or business trust liable for securities transaction tax, in the hands of an individual, Hindu undivided family (HUF), association of persons (AOP), body of individuals (BOI) and artificial judicial person (AJP). The enhanced surcharge will also not apply to capital gains on sale of any security, including derivatives, in the hands of foreign portfolio investors. Also, to provide relief to listed companies that have announced share buyback before July 5, 2019, tax on the buyback of shares will not be charged as per these latest amendments.

The recent amendments could boost the capital base of the financial institutions and help revive growth in the financial services sector, which has been battling with high NPAs, increasing defaults and liquidity concerns. This move could also revive the private capex cycle leading to credit growth in the economy.

Banking services penetration is lower in India compared to other countries

In terms of the credit to GDP ratio, India has a low credit penetration compared with other developing countries, such as China indicating that the existing gap needs to be bridged. Similarly, in terms of credit to households as a proportion of GDP as well, India lags behind other markets, with retail credit hovering at around 22% of GDP as of Fiscal 2020.

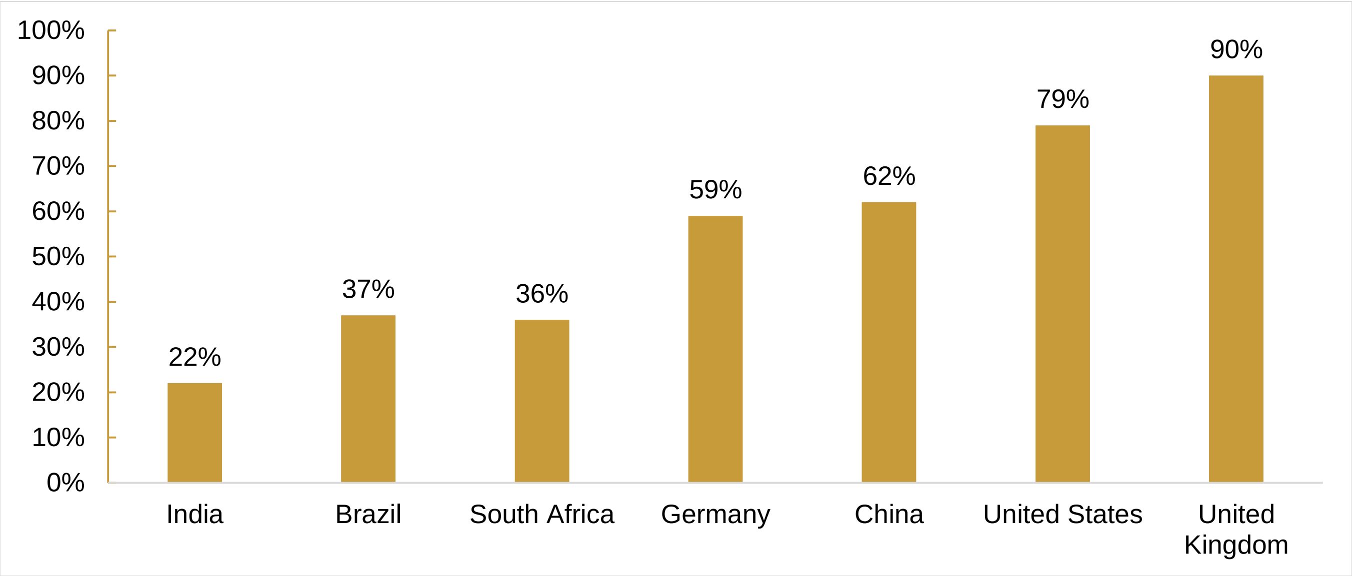
Credit to GDP ratio (%)



Note: Data is represented for calendar years for all countries except India. For India, numbers are for fiscal year

Source: Bank of International Settlements, CRISIL Research

Household Credit to GDP ratio (2020)

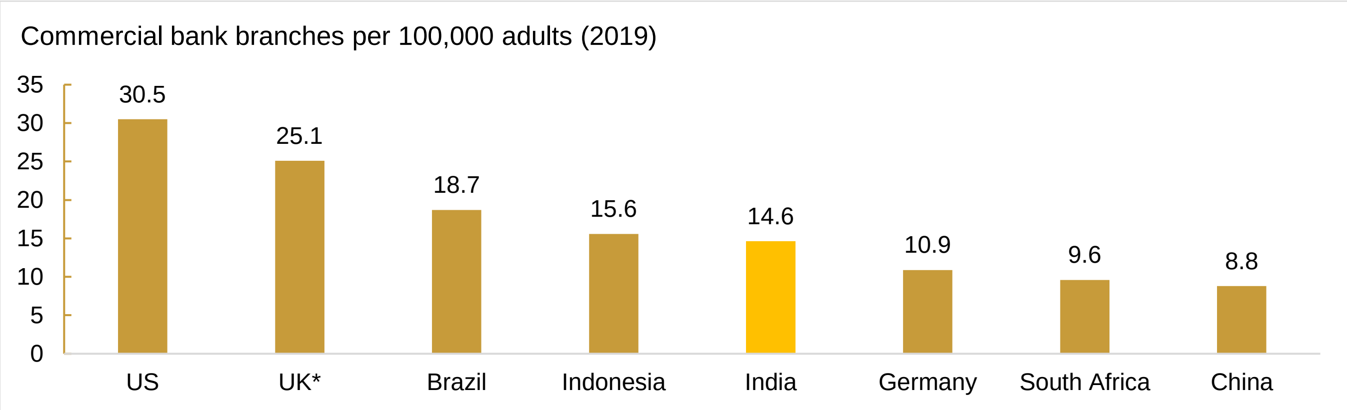


Note: For countries except India, data is represented for calendar years. For India, data represented is for fiscal year 2021.

Source: Bank of International Settlements, CRISIL Research

India has lower commercial bank branches and ATM penetration compared to other countries, indicating huge room for financial inclusion and banking services penetration. As of calendar year 2019, India has 14.6 branches and 21 ATMs for 100,000 adults according to World Bank data which is relatively lower than other developing and developed countries.

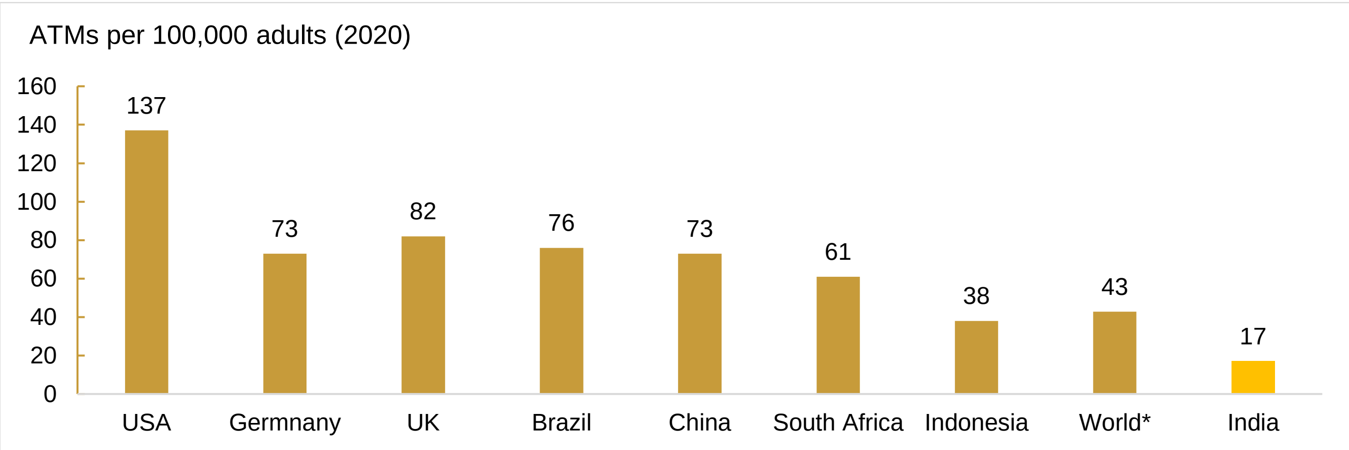
Commercial bank branch penetration across the world



Note: (*) – UK data is as of 2013 calendar year

Source: World Bank, RBI, CRISIL Research

ATM penetration across the world

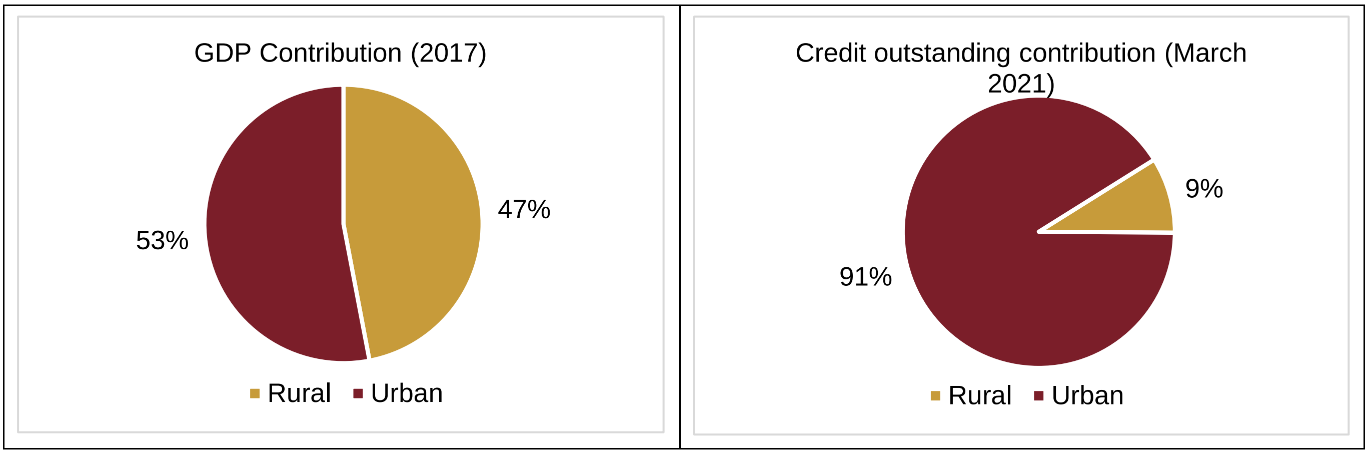


*Note: * Data for 2019*

Source: Company Reports, IMF, World Bank, BIS, RBI, House of Commons Library UK, European Association of Secured Transactions (EAST), CRISIL Research

According to Census 2011, there are about 640,000 villages in India, which are inhabited by about 893 million people, comprising about 66% of the country's population as of March 31, 2020. About 47% of India's GDP comes from rural areas. Yet, ATMs are estimated to be present in less than 10% of the villages in India. CRISIL Research further estimates that only one in ten villages have reasonable access to an ATM terminal and a significant majority of the Tier-5 and Tier-6 towns and villages in the semi-urban and rural (SURU) regions have no or limited access to financial services available to them. The share of total credit outstanding is about 9% in rural areas and 91% in urban areas as of March 31, 2021. The massive divergence in the rural areas' share of India's GDP and banking credit services compared with urban areas is an indicator of the extremely low penetration of banks in rural areas.

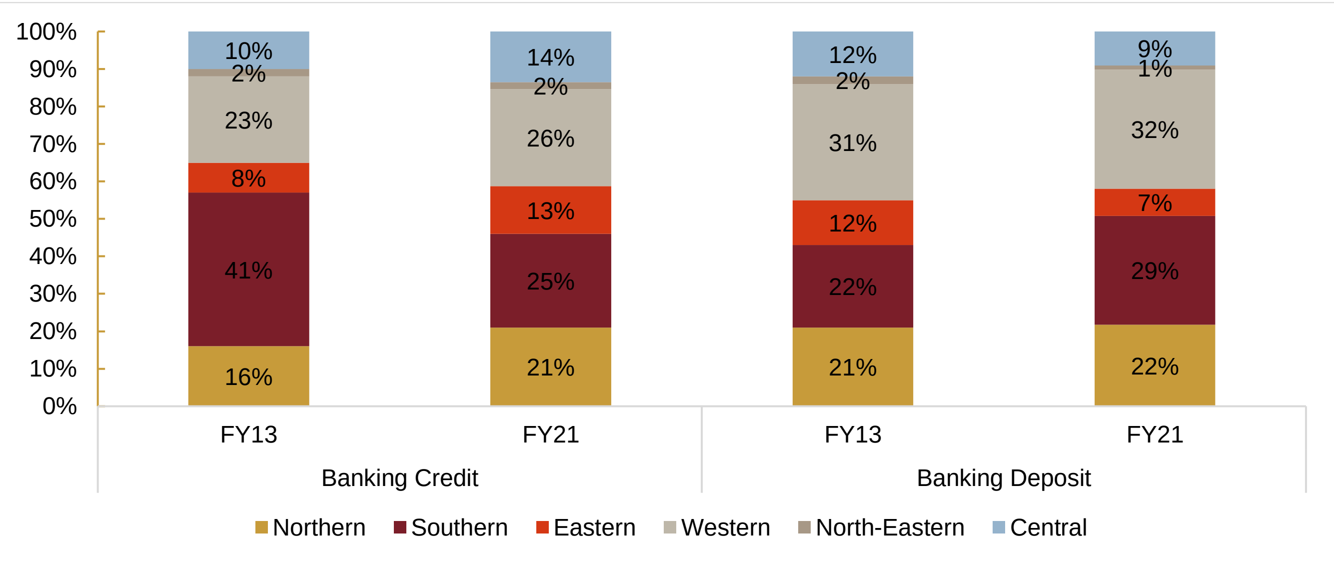
Rural areas account for 47% of GDP but only 9% of credit outstanding



Source: CSO; RBI; CRISIL Research estimates (for GDP contribution as per 2017)

Bank credit and deposits are predominantly concentrated in the southern and western regions, whereas they have been especially low in the north-eastern and eastern regions. Deposit penetration in the southern region has increased over the past eight fiscal years by 7%.

Region-wise share of banking credit and total deposits



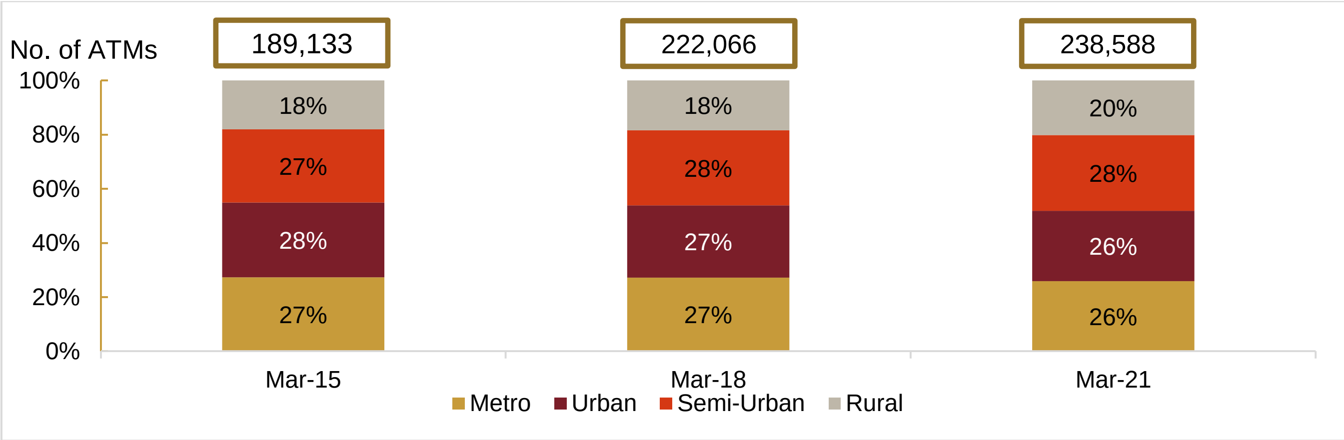
Note: 1. The percentages are as of the end of the fiscal year indicated.

2. As per RBI classification, Southern region includes Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Telangana, Lakshadweep and Pondicherry, Central region includes Chhattisgarh, Madhya Pradesh, Uttarakhand and Uttar Pradesh, Northern region includes Chandigarh, Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Delhi and Ladakh, Eastern region includes Bihar, Jharkhand, Odisha, Sikkim, West Bengal and Andaman and Nicobar Islands, Western regions includes Goa, Gujarat, Maharashtra, Daman and Diu and Dadra and Nagar Haveli and North Eastern region includes, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura.

Source: RBI; CRISIL Research

In terms of number of ATM terminals in India, share of ATMs in the metros and urban areas is gradually declining as penetration of basic banking services increase in rural and semi-urban areas which are quite under-penetrated. The number of branches and ATM facilities is the lowest in eastern region of the country making it the most underpenetrated region in terms of banking services compared to the southern region which is relatively better in terms of accessibility of banking services.

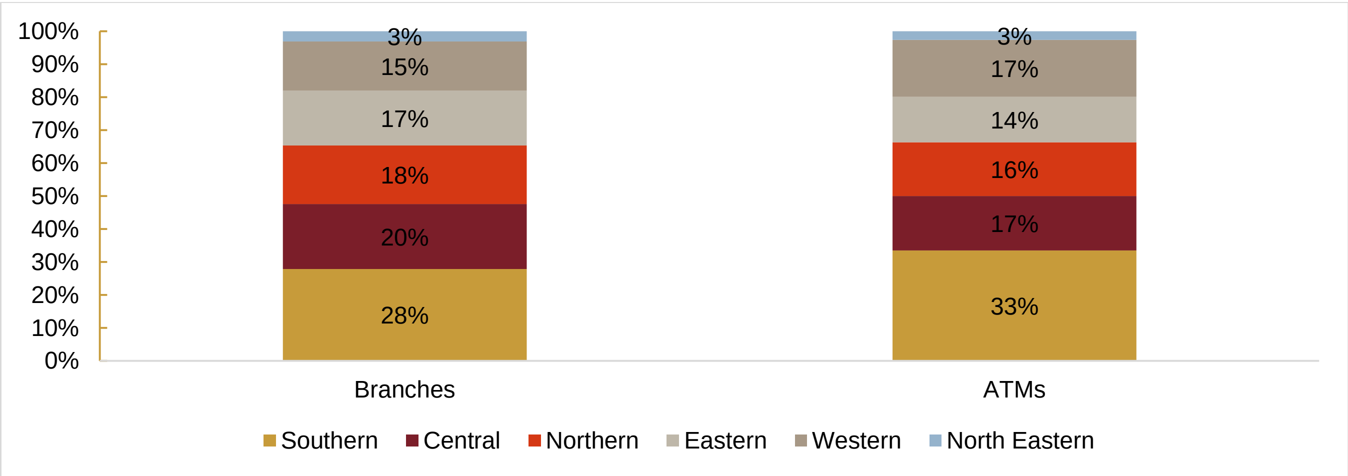
Share of ATMs in rural and semi-urban areas is gradually improving



Note: ATM numbers do not include cash recyclers

Source: RBI, CRISIL Research

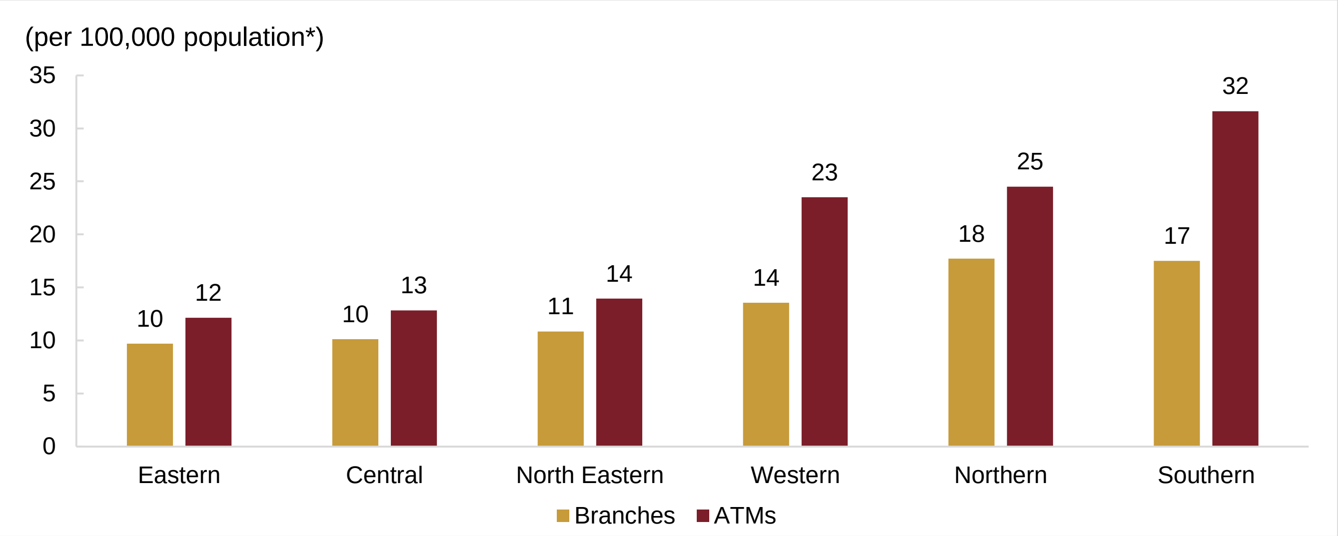
Region-wise split of branches and ATMs (March 31, 2021)



Note: As per RBI classification, Southern region includes Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Telangana, Lakshadweep and Pondicherry, Central region includes Chhattisgarh, Madhya Pradesh, Uttarakhand and Uttar Pradesh, Northern region includes Chandigarh, Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Delhi and Ladakh, Eastern region includes Bihar, Jharkhand, Odisha, Sikkim, West Bengal and Andaman and Nicobar Islands, Western regions includes Goa, Gujarat, Maharashtra, Daman and Diu and Dadra and Nagar Haveli and North Eastern region includes, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura.

Source: RBI; Census India; CRISIL Research

Region-wise presence of bank ATM and branches (as of March 31, 2021)



Note: 1. '' population is as per the census data of 2011*

2. As per RBI classification, Southern region includes Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Telangana, Lakshadweep and Pondicherry, Central region includes Chhattisgarh, Madhya Pradesh, Uttarakhand and Uttar Pradesh, Northern region includes Chandigarh, Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Delhi and Ladakh, Eastern region includes Bihar, Jharkhand, Odisha, Sikkim, West Bengal and Andaman and Nicobar Islands, Western regions includes Goa, Gujarat, Maharashtra, Daman and Diu and Dadra and Nagar Haveli and North Eastern region includes, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura.

Source: RBI; Census India; CRISIL Research

Household savings to increase

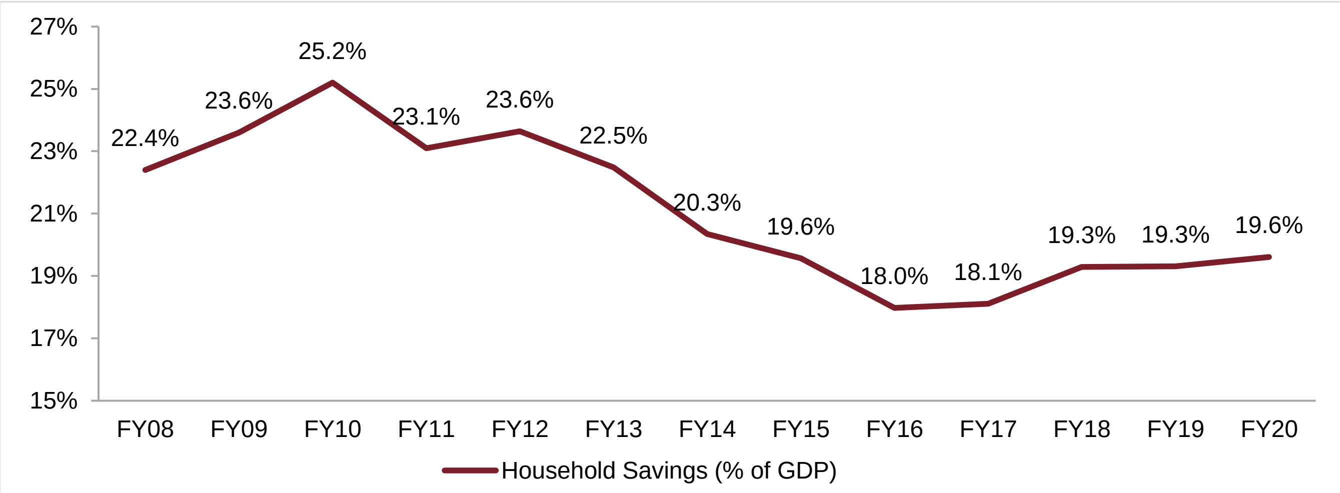
India's slowing economy took a toll on much-needed savings too, with the savings rate touching a 15-year low, and household savings also falling. This has weakened India's macro-economic position which is already hobbled by low investment and rising external borrowing to fund capital needs. Household savings also declined as consumers spent more in purchasing durables and travelling. Indian households contribute to about 60% of the country's savings. But India remains favourable compared with emerging market peers such as Brazil.

According to World Bank, the savings rate, or the proportion of gross domestic savings (GDS) in GDP in the Indian economy has trended down in the past decade. India's GDS peaked at 36.8% of GDP in Fiscal 2008 and dipped to 32.0% in Fiscal 2009. That was largely on account of a sharp slowdown in public savings, as the Government resorted to Fiscal stimulus to address the external shock from global financial crisis (GFC).

CRISIL Research expects India to continue being a high savings economy. However, household savings as a percentage of GDP has been sliding since Fiscal 2012, with its share in total savings falling significantly from 23.6% in Fiscal 2012 to 18.0% in Fiscal 2016. The household savings as percentage of GDP rose to 19.6% in Fiscal 2020. CRISIL Research expects the household savings as a percentage of GDP to increase further on account of expected decline in discretionary spending during the pandemic. However, the absolute amount of savings might not increase at the same pace since the GDP growth is expected to be negative in Fiscal 2021.

CRISIL is also sanguine on savings rate increasing in the medium-term, as households become more focused post the pandemic-induced uncertainty on creating a nest egg for the future.

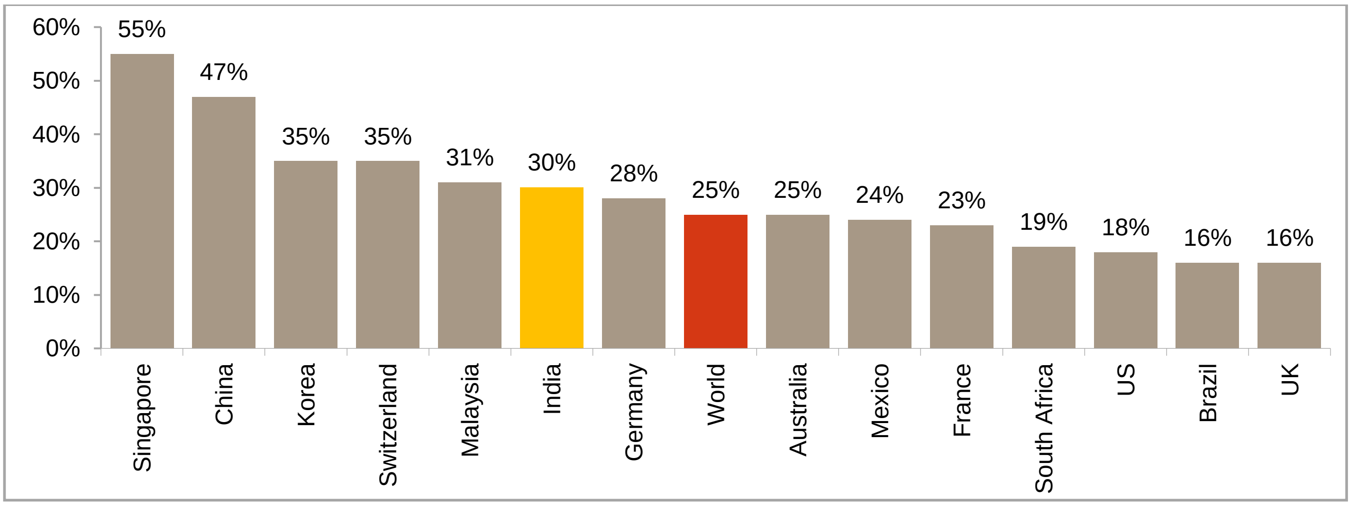
Household savings as a percentage of GDP has increased marginally in Fiscal 2020



Note: E: Estimated

Source: Ministry of Statistics and Programme Implementation (MOSPI), RBI, CRISIL Research

Gross Domestic Savings rate: India vs other countries (CY 2019)



Source: World Bank, Handbook of Statistics on Indian Economy 2018-19, RBI, MOSPI, CRISIL Research

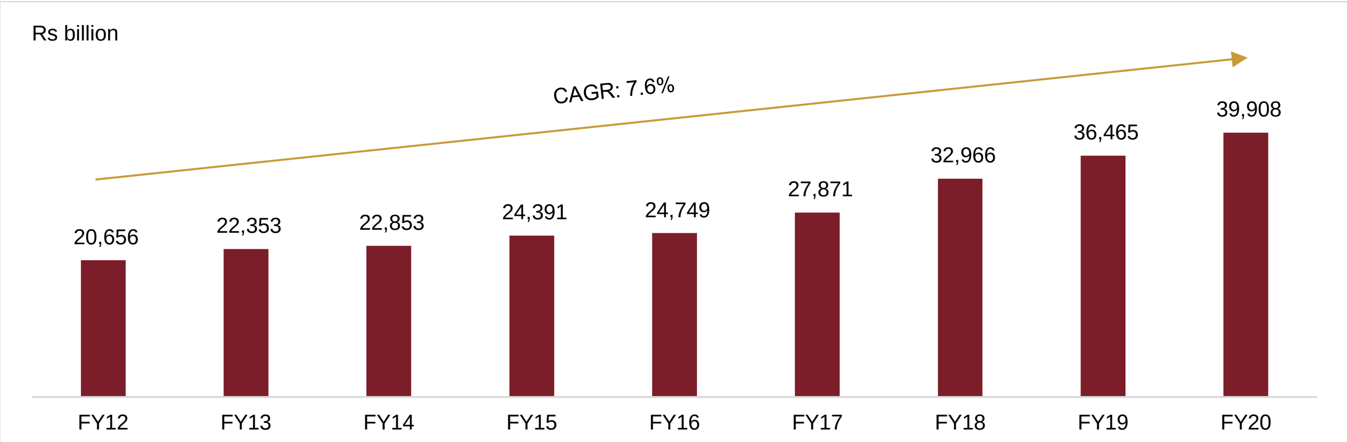
Gross domestic savings trend

Parameters (Rs.billion)	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20
GDS	33,692	36,082	40,200	42,823	48,251	54,807	57,770	63,860
GDP (At current prices)	99,440	112,335	124,680	137,719	153,917	170,900	188,870	203,510
Percentage of GDP	33.9%	32.1%	32.2%	31.1%	31.3%	32.1%	30.6%	31.4%
Household sector savings (net financial savings, savings in physical assets and in the form of gold and silver ornaments)	22,353	22,853	24,391	24,749	27,871	32,966	36,465	39,908

Percentage of GDP	22.5%	20.3%	19.6%	18.0%	18.1%	19.3%	19.3%	19.6%
Gross financial savings	10,640	11,908	12,572	14,962	16,147	20,564	21,341	22,846
Financial liabilities	3,304	3,587	3,768	3,854	4,686	7,507	7,784	6,641
Savings in physical assets	14,650	14,164	15,131	13,176	15,946	19,442	22,481	23,272
Savings in the form of gold and silver ornaments	367	368	456	465	465	467	427	431

Note: The data is for financial year ending March 31; Physical assets are those held in physical form, such as real estate, etc.
Source: MOSPI, National Accounts National Accounts Statistics, CRISIL Research

Household savings growth



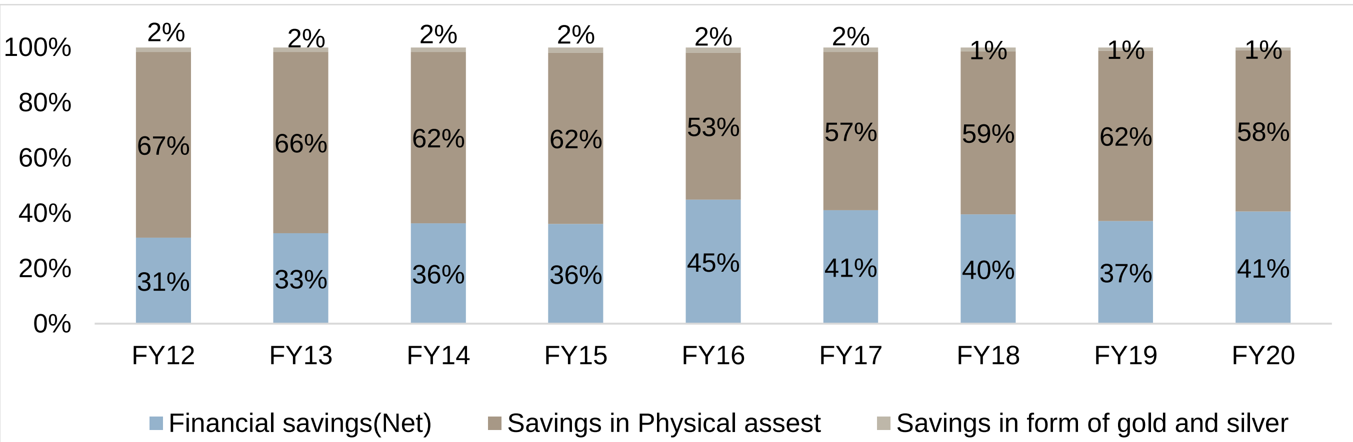
Note: The data is for financial year ending March 31

Source: MOSPI, CRISIL Research

Share of physical savings to remain stable in the wake of COVID

While households' savings in physical assets has declined to 58% in Fiscal 2020 from 67% in Fiscal 2012, financial savings has witnessed an uptrend to 41% in Fiscal 2020 from 31% in Fiscal 2012.

With volatility in the financial markets post COVID and the prevalent lower rates of return in the fixed income products on account of accommodative stance of the central bank, some proportion of savings is expected to continue to remain in the physical assets. In the long-term, with increase in financial literacy, CRISIL expects the share of financial assets as a proportion of net household savings to increase over the next five years, thereby boosting investments in assets such as insurance and mutual funds.



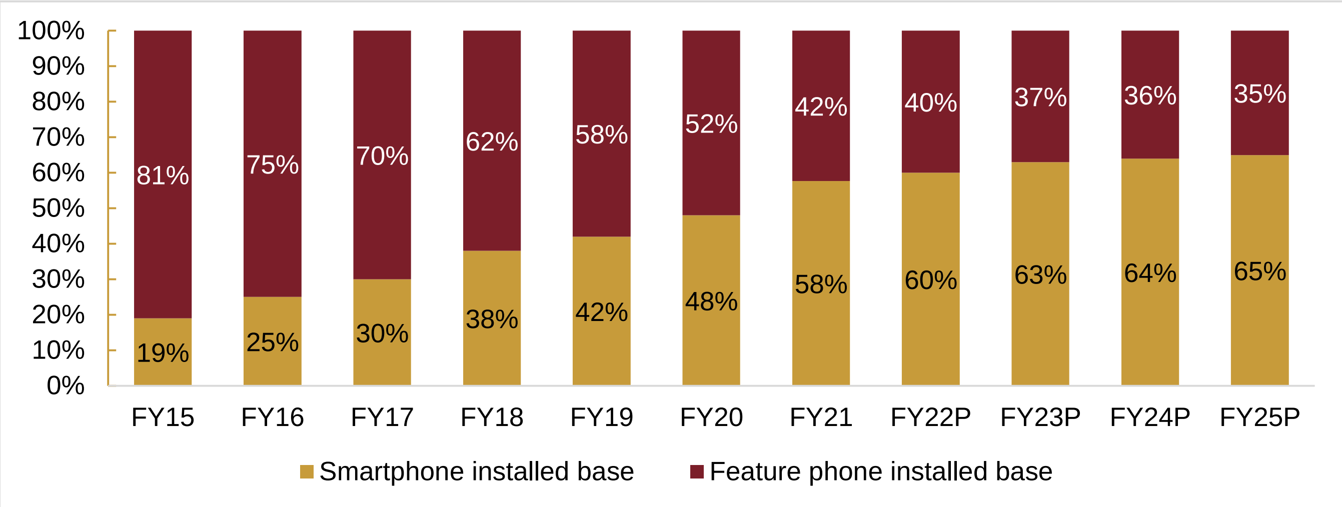
Note: The data is for financial year ending March 31
Source: Handbook of Statistics on Indian Economy 2018-19, RBI, MOSPI, CRISIL Research

Digitisation to support economic growth and financial services

Technology is expected to play a pivotal role in taking the financial sector to the next level of growth, by helping to surmount challenges stemming from India's vast geography, which makes physical footprints in smaller locations commercially unviable. Technology is conducive for India, considering its demographic structure where the median age is less than 30 years. The young population is tech savvy and at ease with using it to conduct the entire gamut of financial transactions. With increasing smartphone penetration and faster data speeds, consumers are now encouraging digitisation as they find it more convenient. Digitisation will help improve efficiency and optimise cost. Players with better mobile and digital platforms will draw more customers and emerge as winners in the long term.

Mobile penetration: Higher mobile penetration, improved connectivity and faster and cheaper data speed, supported by Aadhaar and bank account penetration have led India to shift from being a cash-dominated economy to a digital one.

Data-savvy and younger users to drive adoption of smartphones



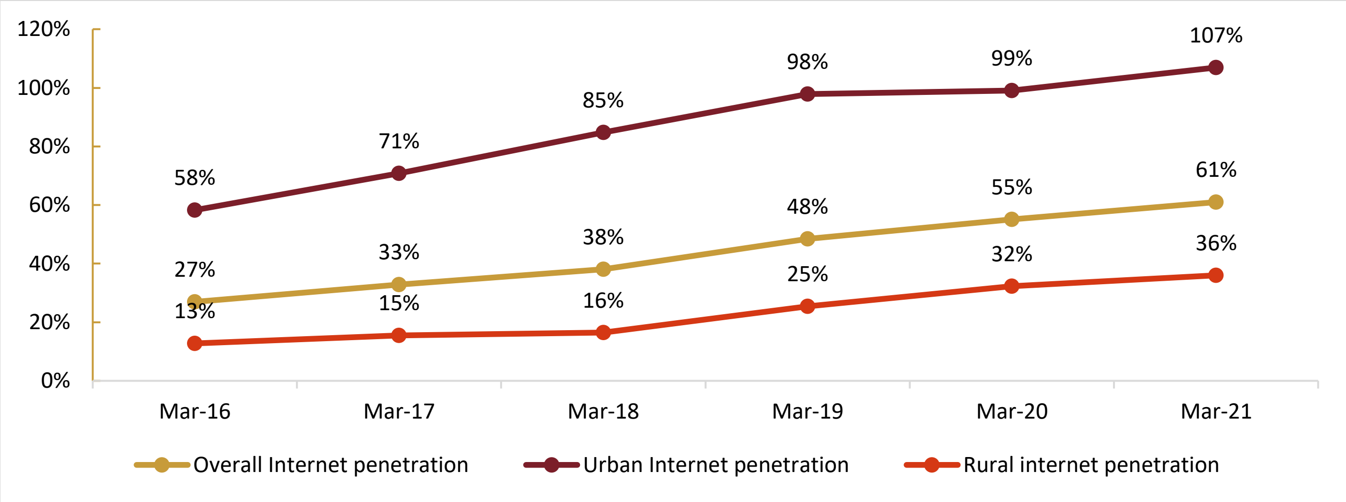
Note: P: Projected
Source: CRISIL Research

Internet penetration: India has witnessed a dramatic surge in internet users over the past few years with internet penetration as a percentage of total population touching ~60% as of fiscal 2021 compared to less than 30% in fiscal 2016. This growth has largely been fuelled by the availability of smartphones at cheaper price points and availability of 4G connectivity at affordable prices.

CRISIL Research expects the total number of internet subscribers in the country to reach 1000 million by fiscal 2025 from 795 million as of December 2020, resulting in ~75% internet penetration. By 2025, complete transition of 2G and 3G data services to 4G is expected. This can be attributed to increased demand for data, competitive pricing of 4G services and availability of affordable handsets.

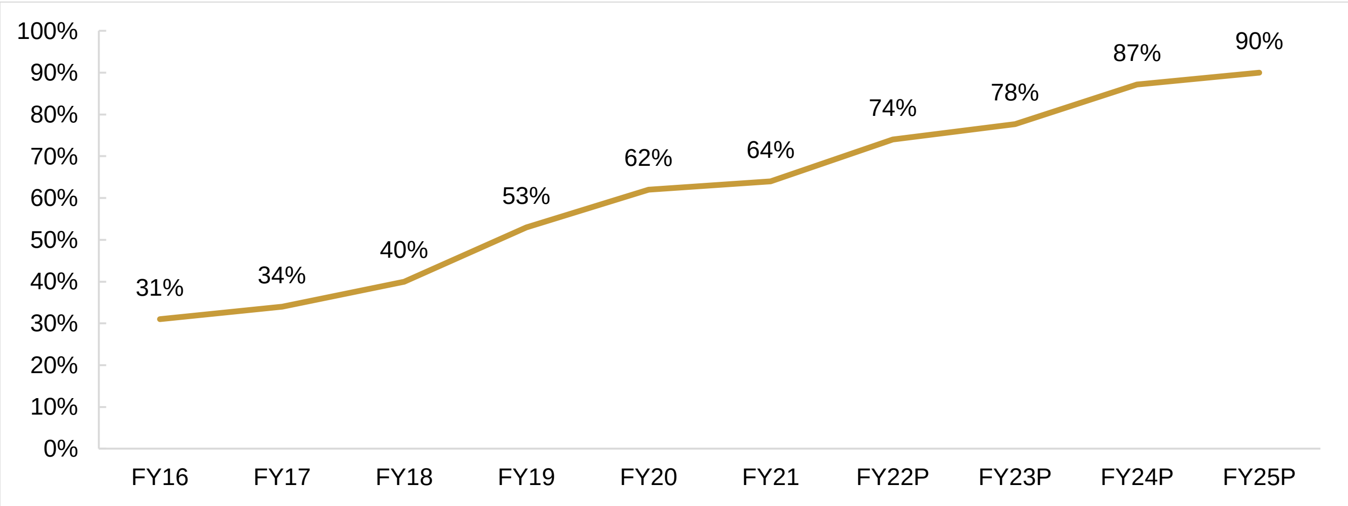
While internet penetration in urban areas have crossed 100%, in rural areas, the penetration is still below 40%. Nonetheless, the number of data subscribers in rural areas have almost tripled to 308 million subscribers as of December 2020 compared to 111 million subscribers as of March 2016 (Source: TRAI).

Internet penetration continues to increase



Source: TRAI, CRISIL Research

Data subscribers as a proportion of wireless subscribers to increase significantly through FY25



Note: P: Projected

Source: Telecom Regulatory Authority of India (TRAI), CRISIL Research

Rise in 4G penetration and smartphone usage

The digital revolution has paved the way for digital payments. India had 1,181 million wireless subscribers as of March 31, 2021, and the number is growing at a steady pace every year. The reach of mobile network, internet and electricity is also expanding the digital payments footprint to remote areas. This is likely to increase the number of digital payment transactions. However, in semi urban and rural areas, internet, 4G and smartphone penetration is still lower compared to urban areas. Over the medium term, while internet and 4G penetration is bound to increase in these areas as well, cash is still expected to remain a significant part of the payments pie; consequently, cash as well as digital payments will co-exist.

All-India mobile and data subscriber base

	FY16	FY17	FY18	FY19	FY20	FY21P	FY22P	FY23P	FY24P	FY25P
Wireless subscribers (million)	1034	1170	1183	1162	1157	1181	1178	1191	1195	1203
Data subscribers (million)	322	401	473	615	720	756	*860*	*925*	*1042*	*1077*
Data subscribers as a proportion of wireless subscribers	31%	34%	40%	53%	62%	64%	74%	78%	87%	90%
4G data subscribers (million)	8	131	287	478	645	719	842	901	1022	1070
4G data subscribers proportion	2%	33%	61%	78%	90%	95%	98%	97%	98%	99%

	FY16	FY17	FY18	FY19	FY20	FY21P	FY22P	FY23P	FY24P	FY25P
Wireless subscribers (million)	1034	1170	1183	1162	1157	1181	1178	1191	1195	1203
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Data subscribers as a proportion of wireless subscribers	31%	34%	40%	53%	62%	64%	74%	78%	87%	90%
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4G data subscribers proportion	2%	33%	61%	78%	90%	95%	98%	97%	98%	99%

Note: P: Projected

(*) 4G data subscribers as a proportion of overall Data subscribers.

Source: TRAI, CRISIL Research

Financial Inclusion

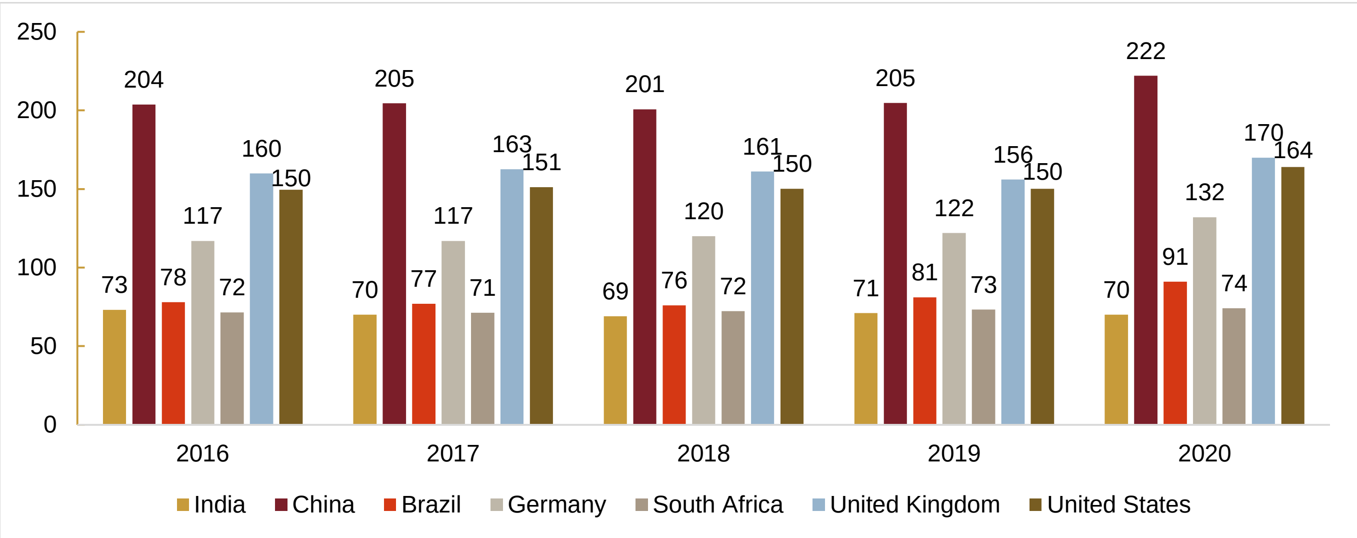
Current scenario and key developments

The COVID-19 pandemic has spread across the world, and India is no exception. The lockdown of nearly 1.3 billion people and a large number of businesses in 2020 led to disruption and dislocation on a scale never imagined. It slammed the brakes on economic activity and caused enormous human suffering. Nonetheless, with opening of lockdown and businesses restarting, economy is on the path of recovery.

In these unprecedented times, the RBI and the government introduced a number of measures including allowing customers to avail of moratorium of up to six months on repayment of instalments for term loans outstanding, allowing restructuring of loans in case of individuals and small businesses impacted by Covid-19, and making available additional collateral-free funding along with credit guarantee to MSMEs through their existing lenders. These measures were required to provide some support to customers and boost confidence in the economy.

In these times of crisis, financial inclusion as also access to finance becomes more imperative than ever for vulnerable households and businesses to navigate the crises and recover after the pandemic. In terms of the credit to GDP ratio, India has a low credit penetration compared with other developing countries, such as China indicating that the existing gap needs to be bridged. Similarly, in terms of credit to households as a proportion of GDP as well, India lags behind other markets, with retail credit hovering at around 22% of GDP as of Fiscal 2020.

Credit to GDP ratio (%)



Note: Data is represented for calendar years for all countries except India. For India, numbers are for fiscal year

Source: Bank of International Settlements, CRISIL Research

India's focus on financial inclusion is increasing

According to the World Bank's Global Findex Database 2017, the global average of adult population with an account (with a bank, financial institution, or mobile money providers) was about 69% in calendar year 2017. India's financial inclusion has improved significantly in the past three years, with the adult population with bank accounts rising from

53% in calendar year 2014 (as per Global Findex Database 2014) to 80% (in calendar year 2017) with concentrated efforts from the government and the rise of various supporting institutions.

According to a recent survey done by PRICE (People Research on India's Consumer Economy & Citizen Environment), in partnership with NPCI on Tracking Digital Payments Awareness, Adoption and Use Behaviour of Households, following conclusions were drawn regarding the extent of financial penetration across various groups in India:

% of households who have	Income groups			Total
	Bottom 40%	Middle 40%	Top 20%	
Bank Account	100%	100%	100%	100%
Get SMS from bank	82%	89%	94%	87%
Showed Aadhaar Card to bank	69%	62%	77%	68%
PSU Bank accounts	85%	73%	66%	78%
Private Bank accounts	7%	12%	13%	10%
Both	7%	15%	22%	13%
Bank Branch < 2 kms from home	53%	54%	53%	53%
ATM < 2 kms from home	58%	59%	67%	60%
Reached by Bank Mitra	54%	56%	62%	56%
Has Debit Card	68%	79%	84%	77%
Uses Debit Card for Cash withdrawal	95%	87%	100%	94%

Note: The households were divided into three groups, the Bottom (40%), Middle (40%) and Top (20%). Bottom 40% had an average household income per year of Rs 110,000 and 80% of these households lived in rural areas. Middle 40% had average household income per year of Rs. 180,000 and 60% of these households lived in rural areas. Top 20% had average household income per year of Rs. 360,000 and 45% of these households lived in rural areas.

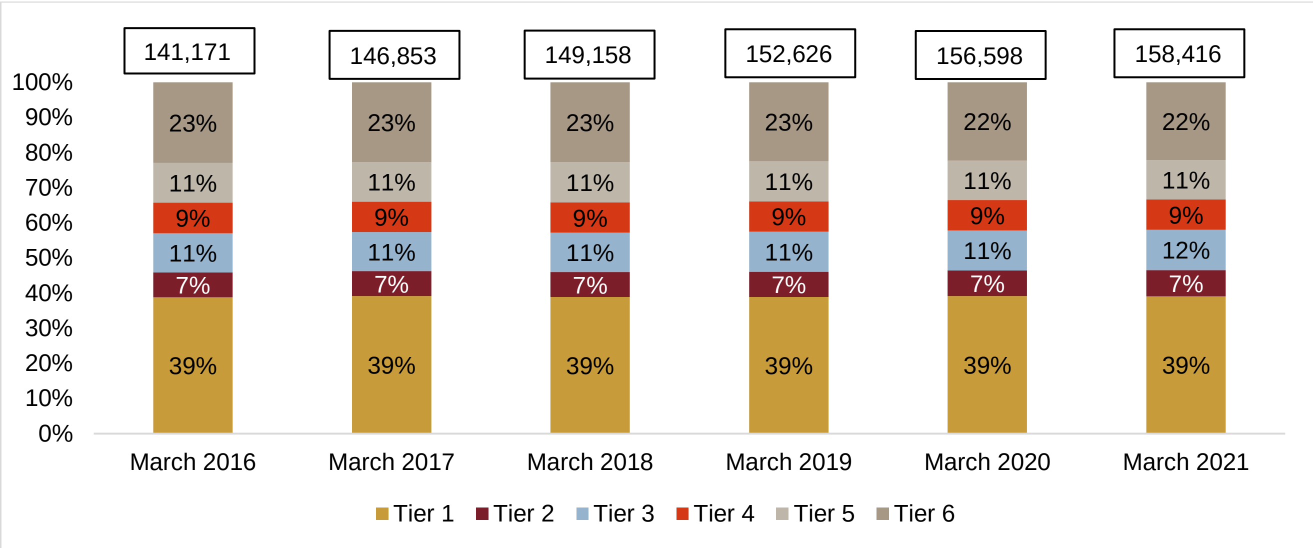
Source: NPCI report titled Digital Payments Adoption in India[12], 2020

Although the majority of Indian households are located in the rural region, the banking infrastructure in these regions is relatively inferior. Thus, there is a gap in the supply and demand of financial services in the backward regions of the country, which is a pocket of opportunity for the financial services sector.

SURU regions have no or limited financial services available to them

As of March 2021, only about 33% of branches are in Tier-5 and Tier-6 centres whereas the total population live in this areas form 64% of overall population in the country. Tier-5 and Tier-6 cities together have only about 52,789 branches as of March 2021, indicating that Indian banks have substantially less infrastructure in the SURU regions as compared to metro and urban areas as generally banks have not been expanding their branch network in the SURU regions. Though SURU regions are underpenetrated in the terms of bank branches and financial services, bank branches in the SURU regions have grown only by a 2.2 % CAGR over the last five fiscal years which is in line with growth of overall branch network growth in last five years.

Tier-wise Bank branches in India (March 2021)



Note: Tier-wise classification as per population by RBI

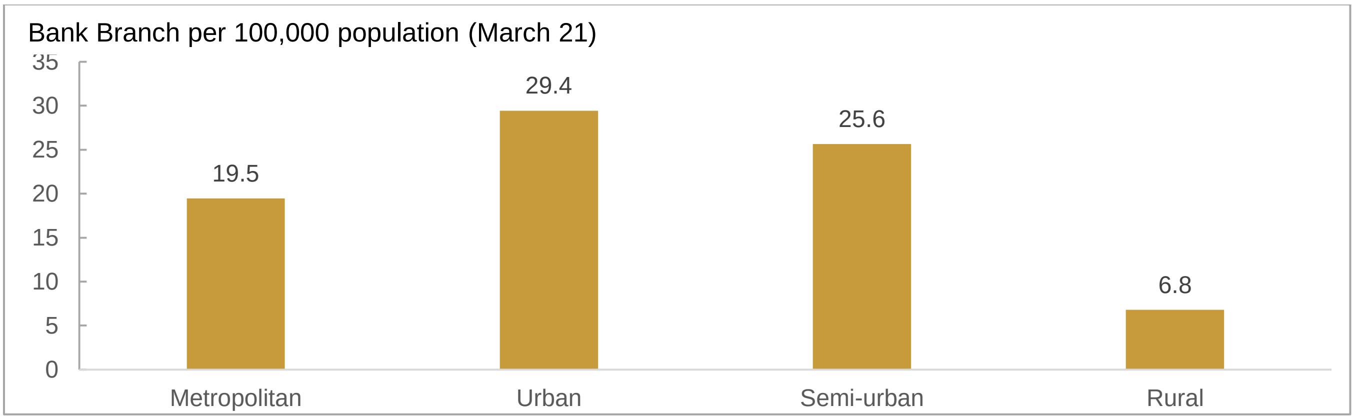
Tier1=100,000 & above, Tier2 =50,000 to 99,999, Tier3 =20,000 to 49,999, Tier4 =10,000 to 19,999, Tier5 =5,000 to 9,999, Tier6 =less than 5000

Source: RBI, Census, CRISIL Research

Bank branch and ATM network needs to expand in rural areas

As per census 2011, around 776 million people live in rural area wherein bank branch penetration is too low, indicating huge room for financial inclusion and banking services penetration. As of March 31, 2021, rural India has 6.8 branches and 6.2 ATMs per 100,000 populations which is much lower than in the urban areas. It is estimated that only one in ten villages have reasonable access to a ATM. CRISIL Research estimates that as of March 31, 2021, the SURU regions accounted for 75% of India's population but only 48% of ATMs were deployed there. Hence, SURU regions represent a significant growth opportunity in the ATM sector as these areas are deeply underbanked with low ATM penetration.

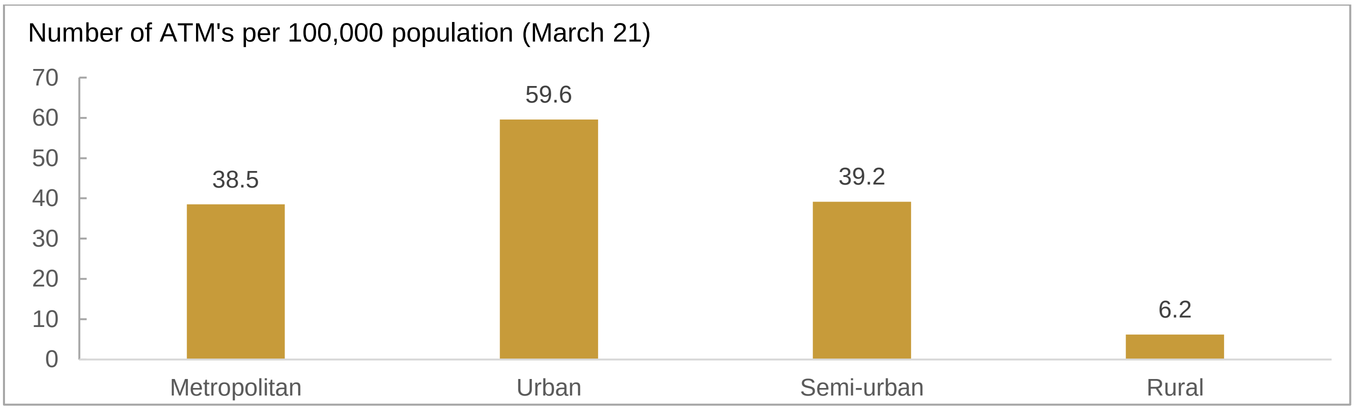
Bank branch penetration across India



Note: Population classification is as per census 2011

Source: RBI, Census, CRISIL Research

ATM penetration across India



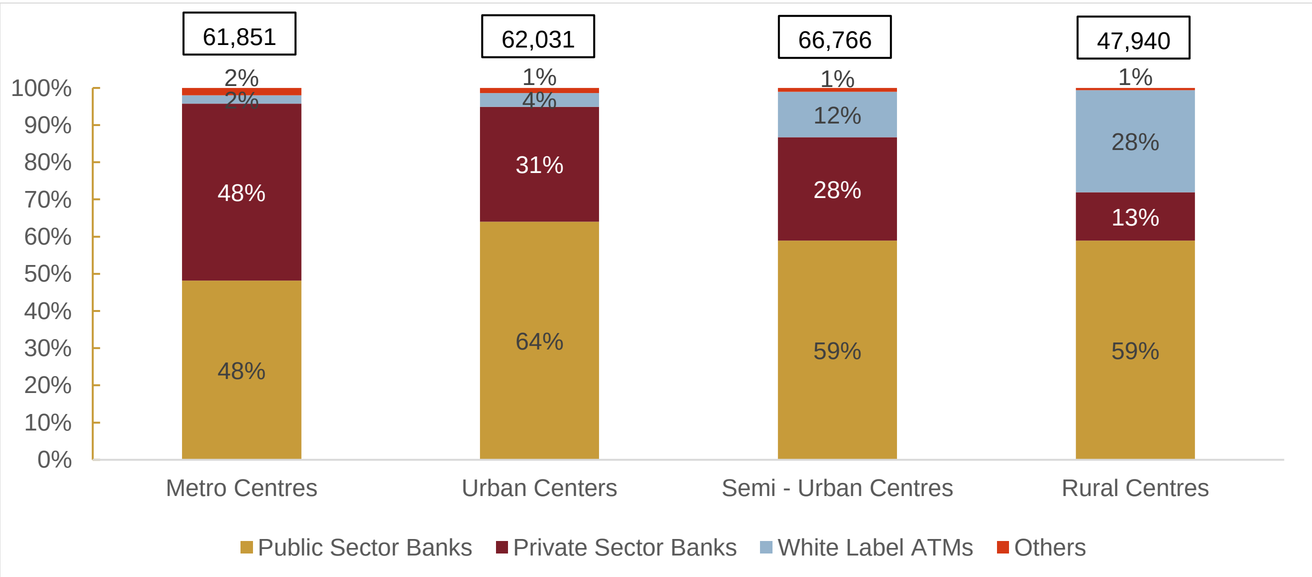
Note: Population classification is as per census 2011

Source: RBI, Census, CRISIL Research

White label ATM (WLA) operators can play a significant role in development of rural ATM network

As of March 31, 2021, more than 85% of the ATM terminals in rural centres are deployed by Public sector banks and white labelled ATM (WLA) operators. Over the last six years, public sector bank ATM terminals in rural areas have hardly grown at CAGR of 1% compared to ATM terminals deployed by WLA operators, which have grown by 32%. In semi-urban areas as well, public sector banks and white labelled ATM operators together accounted for over 70% of ATMs deployed as of March 31, 2021. Going forward, with their greater focus on rural and semi-urban areas and presence in these areas, WLA operators can significantly contribute towards increasing ATM penetration and accessibility in these areas.

ATM's owned and managed by different type of players (as of March 31, 2021)



Note: ATM numbers do not include cash recyclers, Population classification is as per census 2011, Others include foreign banks, small finance banks, and payment banks.

Source: RBI, Census, CRISIL Research

Growth in number of ATMs deployed by different players

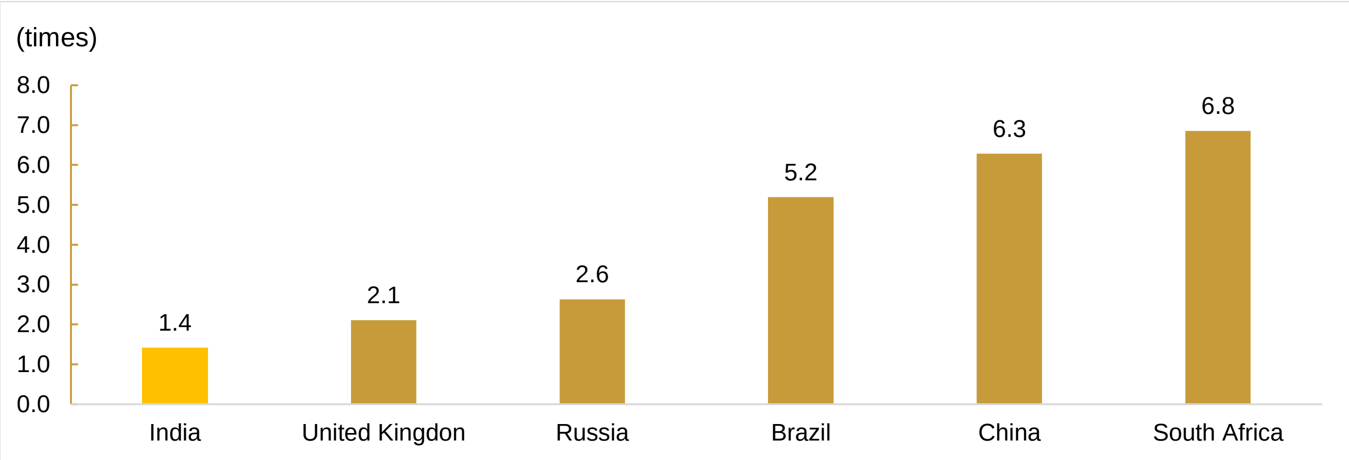
CAGR FY15-21	Metro	Urban	Semi-Urban	Rural	Total
PSBs	1%	2%	1%	1%	1%
Private Banks	6%	4%	8%	7%	6%
WLAs	1%	10%	20%	32%	21%
Others	7%	26%	79%	44%	19%

Source: RBI, CRISIL Research

Cash velocity (ATM withdrawal to CIC) in India is just 1.4 times

India's cash velocity (ATM withdrawal to Cash-in-circulation ratio) lies behind other countries, indicating lower debit card usage in the country. However, with initiatives like PMJDY focussed towards increasing financial penetration and inclusion, the Government has been attempting to change the situation. Under PMJDY, the beneficiaries have been issued RuPay debit cards, which has been a key enabler of rural participation in the financial system. As of March 31, 2021, 309 million RuPay debit cards have been issued to 422 million PMJDY beneficiaries. Out of these, 66% of the beneficiaries belong to rural and semi-urban areas.

ATM withdrawal to CIC (Cash in circulation) ratio (CY 2019)



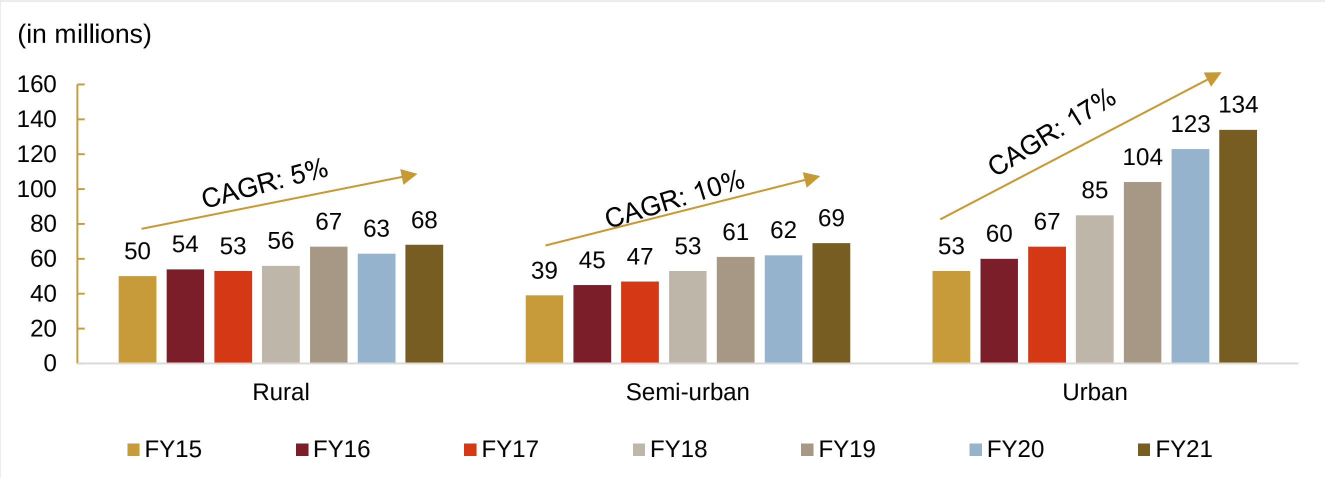
Source: Bank of International Settlements, CRISIL Research

Rural India accounts for about half of GDP, but only about 9% of total credit outstanding

About 47% of India's GDP was estimated to come from rural areas in 2017. But their share in banking credit is abysmally low with just 9% of total credit outstanding in rural areas. The massive divergence in the rural areas' share of India's GDP and banking credit services compared with urban areas is as an indicator of the extremely low penetration of the banking sector in rural areas.

The number of bank credit accounts in rural areas grew at a CAGR of 5% between the end of Fiscal 2015 and the end of Fiscal 2021 and the number of bank deposit accounts grew at a CAGR of 7% between the end of Fiscal 2015 and the end of Fiscal 2020. However, with payments bank increasing their reach and expanding into rural areas and increasing financial awareness, faster growth in rural areas can be expected in the future given the huge untapped potential. Between the end of Fiscal 2015 and the end of Fiscal 2021, the number of credit accounts in semi-urban areas grew at a CAGR of 10% and between the end of Fiscal 2015 and the end of Fiscal 2020, the number of deposit accounts grew at a CAGR of 9%. Between the end of Fiscal 2015 and Fiscal 2021, the number of credit accounts in urban areas grew at a CAGR of 17% and between the end of Fiscal 2015 and the end of Fiscal 2020, the number of deposit accounts grew at a CAGR of 7%.

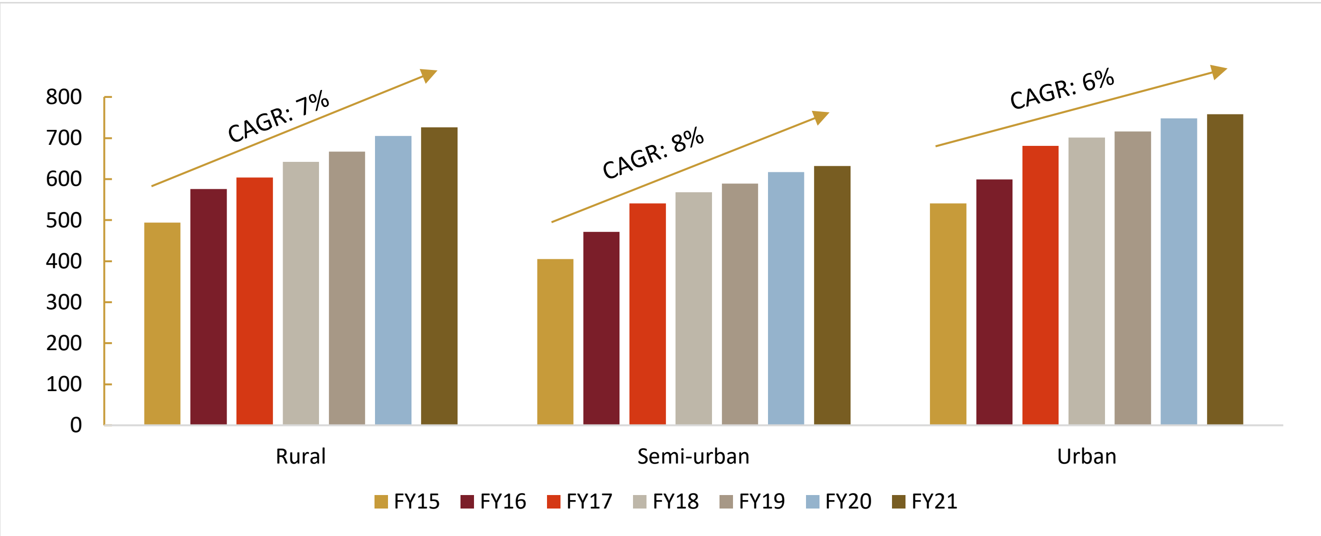
Bank credit accounts in rural, semi-urban and urban areas (FY21)



Note: Urban includes data for Urban and Metropolitan areas; amounts are as of the end of the fiscal year indicated. Data represents only bank credit accounts

Source: RBI; CRISIL Research

Bank deposit accounts in rural, semi-urban and urban areas (FY21)



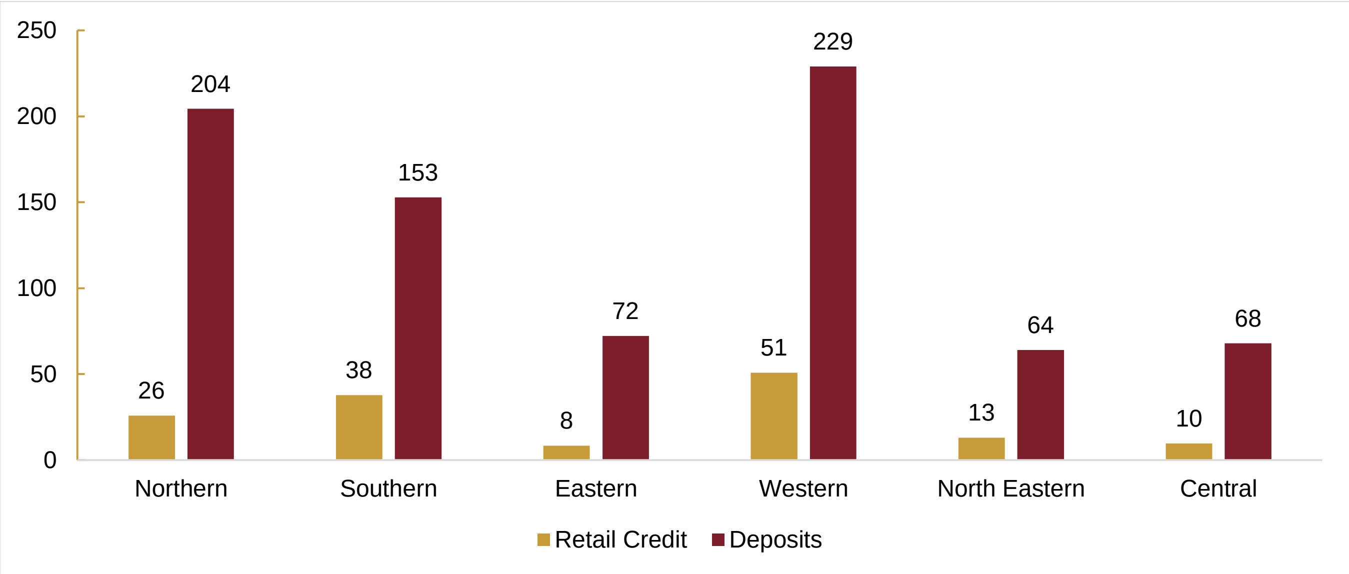
Note: Urban includes data for Urban and Metropolitan areas; amounts are as of the end of the fiscal year indicated. Data represents only bank deposit accounts

Source: RBI; CRISIL Research

Region-wise asymmetry: Central and eastern regions are relatively underpenetrated in terms of bank credit and deposits

Bank retail credit per capita in the east is the lowest and is nearly five times lower than in the south and west. Low per-capita retail credit as well as deposits in eastern, central, and north-eastern regions compared with other regions implies low penetration of banks in these areas. This provides an opportunity for all lending and deposit accepting institutions to expand in these regions and also expand their reach in specific areas around them. In terms of deposits, the southern region is moderately penetrated compared with the northern and western regions, leaving a lot of headroom for growth for the players to capitalise on.

Region-wise per capita* banking retail credit and deposits as of the end of FY21 (Rs. in thousands)



Note: 1. '' population as per the census data of 2011*

2. *As per RBI classification, Southern region includes Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Telangana, Lakshadweep and Pondicherry, Central region includes Chhattisgarh, Madhya Pradesh, Uttarakhand and Uttar Pradesh, Northern region includes Chandigarh, Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Delhi and Ladakh, Eastern region includes Bihar, Jharkhand, Odisha, Sikkim, West Bengal and Andaman and Nicobar Islands, Western regions includes Goa, Gujarat, Maharashtra, Daman and Diu and Dadra and Nagar Haveli and North Eastern region includes, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura.*

Source: RBI; Census India; CRISIL Research

Large variation in credit availability across states and districts

There is a wide variation across states and within various districts in the same state as well in terms of credit, which indicates latent opportunity for providing banking services to unserved or underserved customers. Uttar Pradesh and Bihar are the most populous states in India, accounting for 16% and 9% respectively of overall population in India, as compared to other states like Assam, Jharkhand and Odisha with share of ~3%. Based on bank credit accounts in rural areas, Himachal Pradesh, Odisha, Jharkhand and Bihar have more than 45% of the credit accounts in rural areas compared to Maharashtra, Delhi, Kerala and Mizoram where the share of accounts in rural areas is below 10%. In value terms, bigger states like Maharashtra, Delhi, Kerala and Gujarat have less than 10% of credit outstanding in rural areas compared to Meghalaya, Himachal Pradesh and Jammu & Kashmir with more than 30% of rural credit outstanding.

Maharashtra and Delhi, among the states with high share in overall credit, have more than 70% of total credit outstanding concentrated in the top five districts as of FY21.

State-wise rural credit accounts in banks and top five districts concentration (FY21)

State	No. of districts	% share in overall population in India	Share in overall credit	Credit to Deposit ratio (FY19)	Concentration of credit in top 5 districts	% of credit in rural areas	Concentration of credit accounts in top 5 districts*	% credit accounts in rural areas
Maharashtra	99	9%	29%	95%	90%	2%	73%	8%
Delhi	4	1%	13%	94%	100%	0%	100%	0%
Tamil Nadu	88	6%	10%	102%	62%	11%	44%	26%
Karnataka	83	5%	7%	61%	74%	8%	44%	28%
Gujarat	92	5%	6%	69%	72%	6%	51%	17%
Uttar Pradesh	207	16%	5%	41%	37%	17%	18%	36%
Andhra Pradesh	62	8%	4%	129%	64%	15%	45%	30%
West Bengal	40	7%	4%	46%	73%	13%	46%	45%
Kerala	37	3%	4%	62%	66%	2%	52%	4%
Rajasthan	90	6%	3%	77%	53%	14%	39%	32%
Madhya Pradesh	135	6%	3%	67%	54%	11%	33%	26%
Haryana	62	2%	3%	52%	62%	9%	43%	20%
Punjab	60	2%	2%	54%	60%	21%	47%	29%
Bihar	99	9%	1%	39%	46%	22%	36%	46%
Odisha	69	3%	1%	39%	60%	20%	47%	50%
Chhattisgarh	64	2%	1%	62%	73%	8%	47%	21%
Assam	69	3%	1%	47%	50%	25%	35%	46%
Jharkhand	56	3%	1%	30%	67%	17%	53%	46%
Jammu and Kashmir	43	1%	1%	31%	60%	34%	50%	50%
Uttarakhand	28	1%	1%	35%	89%	21%	81%	31%
Himachal Pradesh	22	1%	0%	31%	74%	57%	67%	69%
Goa	4	0%	0%	24%	100%	16%	100%	30%
Tripura	16	0%	0%	41%	87%	28%	83%	35%
Meghalaya	20	0%	0%	37%	93%	30%	88%	42%
Manipur	25	0%	0%	56%	83%	28%	79%	29%
Nagaland	21	0%	0%	39%	87%	21%	82%	25%
Arunachal Pradesh	30	0%	0%	24%	74%	25%	65%	31%
Sikkim	20	0%	0%	34%	100%	28%	81%	39%
Mizoram	7	0%	0%	43%	85%	7%	100%	7%

Note: Arranged in descending order of share in overall credit outstanding of banks, (*) As of FY20

Source: RBI, CRISIL Research

Similarly in terms of bank deposits, Odisha, Jharkhand, Assam, Himachal Pradesh, Sikkim and Meghalaya have more than 50% of the deposit accounts in rural areas compared to Maharashtra, Delhi and Kerala where the share of accounts in rural areas is below 20%. In value terms, Maharashtra, Delhi, Kerala, Karnataka, Tamil Nadu and Haryana have less than 10% of deposits in rural areas compared to Sikkim, Tripura, Meghalaya, Arunachal Pradesh, Himachal Pradesh and Jammu & Kashmir with more than 25% of rural deposits.

Maharashtra and Karnataka, among the bigger states have more than 75% of total deposits concentrated in the top five districts as of FY21.

State-wise rural deposit accounts in banks and top five districts concentration (FY21)

State	No. of districts	% share in overall population in India	% Share in overall deposits	Concentration of deposits in top 5 districts	% of deposits in rural areas	Concentration of deposit accounts in top 5 districts*	% deposit accounts in rural areas*
Maharashtra	35	9%	21%	85%	3%	52%	18%
Delhi	11	1%	10%	100%	1%	61%	2%
Uttar Pradesh	74	16%	9%	39%	20%	15%	46%
Karnataka	29	5%	8%	79%	7%	44%	30%
Tamil Nadu	32	6%	7%	66%	9%	35%	24%
West Bengal	23	8%	6%	69%	17%	38%	47%
Gujarat	46	7%	6%	61%	11%	42%	26%
Kerala	33	5%	4%	63%	3%	46%	4%
Haryana	14	3%	4%	67%	9%	39%	25%
Rajasthan	22	2%	3%	54%	15%	34%	37%
Punjab	32	6%	3%	56%	21%	46%	32%
Madhya Pradesh	22	2%	3%	51%	12%	23%	32%
Bihar	52	6%	3%	48%	23%	27%	48%
Odisha	38	9%	3%	57%	24%	33%	56%
Andhra Pradesh	30	3%	2%	62%	16%	32%	30%
Jharkhand	24	3%	2%	69%	18%	40%	52%
Chhattisgarh	33	3%	1%	64%	18%	37%	45%
Assam	28	2%	1%	59%	22%	27%	53%
Uttarakhand	13	1%	1%	85%	23%	71%	44%
Jammu and Kashmir	20	1%	1%	68%	28%	50%	50%
Himachal Pradesh	10	1%	1%	73%	61%	67%	74%
Goa	2	0%	1%	100%	23%	100%	34%
Tripura	8	0%	0%	91%	28%	81%	47%
Meghalaya	10	0%	0%	92%	26%	77%	54%
Arunachal Pradesh	13	0%	0%	77%	26%	66%	40%
Nagaland	7	0%	0%	95%	10%	94%	23%
Manipur	10	0%	0%	89%	25%	78%	38%
Mizoram	4	0%	0%	89%	13%	82%	30%
Sikkim	11	0%	0%	100%	28%	100%	51%

Note: Arranged in descending order of share in overall deposits. (*) Data as of FY20

Source: RBI, CRISIL Research

Karnataka, Telangana and Haryana registered fastest growth over Fiscals 2015-2020

GDP growth has been varied across states with Karnataka growing at the fastest rate of 9.9% CAGR (FY 2015-FY 2020), followed by Telangana (9.8%), Haryana (9.1%), Gujarat (8.7%) and Andhra Pradesh (8.6%). In the South, states like Andhra Pradesh, Karnataka and Tamil Nadu have huge headroom for growth given the credit penetration and economic growth. Similarly, In the West, states like Maharashtra and Gujarat have showcased good growth in terms of GDP and Gujarat has a relatively lower credit penetration, which provides a huge potential to be addressed.

State-wise GDP and GDP growth (FY 2021)

States	Real GDP Rs. Billion (FY 2020)	YOY growth	Real GDP growth CAGR (FY 2015-FY 2020)	Credit account penetration (FY 2021)	Deposit account penetration^	Branch penetration (FY 2021)	ATM penetration (FY 2021)	CRISIL Inclusix Score (FY2016)
Maharashtra*	20,391	6.0%	6.6%	32%	164%	108	211	62.7
Tamil Nadu	13,129	8.0%	8.0%	14%	182%	147	331	77.2
Karnataka	12,010	6.8%	9.9%	9%	190%	157	259	82.1
Uttar Pradesh	11,873	4.4%	7.3%	2%	175%	80	96	44.1
Gujarat*	11,864	9.2%	8.7%	7%	149%	126	175	62.4
West Bengal	7,932	7.3%	6.7%	3%	146%	90	120	53.7
Rajasthan	7,116	5.0%	6.4%	4%	123%	101	137	50.9
Andhra Pradesh	6,720	8.2%	8.6%	9%	167%	137	231	78.4
Delhi	6,344	7.4%	8.2%	25%	277%	197	422	86.1
Haryana	5,722	7.7%	9.1%	10%	187%	180	237	67.7
Madhya Pradesh	5,618	7.6%	7.9%	4%	133%	89	128	48.7
Kerala*	5,594	7.5%	6.7%	11%	200%	180	267	90.9
Punjab	4,189	5.3%	6.1%	9%	196%	212	232	70.9
Bihar	4,150	10.5%	8.2%	1%	114%	65	71	38.5
Odisha	4,024	5.3%	8.3%	4%	137%	113	157	63
Chhattisgarh	2,435	5.3%	5.6%	4%	140%	99	129	45.7
Jharkhand	2,400	6.7%	5.2%	3%	127%	86	97	48.2
Assam*	2,340	6.4%	8.1%	3%	124%	86	117	47.9
Uttarakhand*	1,933	6.9%	7.3%	5%	123%	193	239	69
Himachal Pradesh	1,244	5.6%	6.9%	5%	180%	217	242	72.3
Jammu & Kashmir*	1,128	6.1%	7.3%	8%	151%	125	182	47.8
Tripura	405	9.6%	8.5%	3%	133%	139	123	66.2
Meghalaya	267	8.2%	5.8%	4%	88%	111	121	34.6

Note: 1. (*) – As of FY 2019, (^) – As of FY 2020
2. Credit account penetration is calculated as total number of retail bank credit accounts/population of the state
3. Deposit account penetration is calculated as total number of bank deposit accounts/ population of the state
4. Branch penetration is calculated as Number of bank branches per million people
5. ATM penetration is calculated as Number of ATMs per million people
6. For Credit and Deposit account penetration, this does not represent unique borrowers or depositors, total number of accounts have been considered
7. Andhra Pradesh and Telangana have been considered as one state

Source: RBI, MOSPI, CRISIL Research

CRISIL Inclusix, an index that measures the extent of financial inclusion at a geographical level across all districts in India, reported a score of 58.0 at the end of Fiscal 2016, up from 50.1 in Fiscal 2013 and 35.4 in Fiscal 2009. The index scores each district in India on a scale of 0 to 100 with 0 being the worst and 100 being the best. The overall improvement of the score in Fiscal 2016 was mostly driven by JAM trinity: Jan Dhan Yojana, Aadhaar and mobile.

Kerala had the highest CRISIL Inclusix score as of 2016 with only 1 district having a score less than 70. Goa, Karnataka, Andhra Pradesh are other states with higher Inclusix scores and no districts having a score below 50. States such as Uttar Pradesh and Bihar, on the other hand, have an Inclusix score below 45, with a large majority of districts – 50% in case of Uttar Pradesh and 65% for Bihar – having Inclusix scores below 40. North-eastern states like Manipur, Nagaland and Meghalaya have the lowest Inclusix scores with hardly any district having a score more than 50.

State	**CRISIL Inclusix Score (FY2016)**	**Number of districts with CRISIL Inclusix score in the stated range**					
		More than 70	60-70	50-60	40-50	Less than 40	Total number of districts
Kerala	90.9	13	1	0	0	0	14
Goa	88.9	2	0	0	0	0	2
Puducherry	87.7	3	1	0	0	0	4
Chandigarh	86.7	1	0	0	0	0	1
Delhi	86.1	1	0	0	0	0	1
Karnataka	82.1	20	5	5	0	0	30
Andhra Pradesh	78.4	10	3	0	0	0	13
Tamil Nadu	77.2	22	8	2	0	0	32
Telangana	72.8	7	3	0	0	0	10
Himachal Pradesh	72.3	9	2	1	0	0	12
Punjab	70.9	9	10	1	2	0	22
Uttarakhand	69.0	3	7	3	0	0	13
Haryana	67.7	7	10	1	2	1	21
Tripura	66.2	2	1	0	5	0	8
Andaman & Nicobar	63.9	1	0	0	0	2	3
Odisha	63.0	6	7	8	7	2	30
Maharashtra	62.7	9	6	8	11	2	36
Gujarat	62.4	10	5	4	7	7	33
Daman and Diu	60.7	0	1	1	0	0	2
Dadra and Nagar Haveli	60.2	0	1	0	0	0	1
Sikkim	60.2	1	0	0	2	1	4
West Bengal	53.7	2	4	5	6	3	20
Lakshadweep	51.3	0	0	1	0	0	1
Rajasthan	50.9	2	3	10	10	8	33
Madhya Pradesh	48.7	3	3	12	15	18	51
Jharkhand	48.2	2	3	2	5	12	24

Assam	47.9	2	4	3	8	10	27
Jammu & Kashmir	47.8	1	2	3	7	9	22
Chhattisgarh	45.7	2	0	5	5	15	27
Uttar Pradesh	44.1	4	4	5	25	37	75
Mizoram	43.2	0	0	1	1	6	8
Bihar	38.5	1	0	0	12	25	38
Arunachal Pradesh	34.7	1	0	2	0	14	17
Meghalaya	34.6	0	0	1	0	10	11
Nagaland	32.4	0	1	0	2	8	11
Manipur	32.0	0	1	0	0	8	9
Total	58.0	156	96	84	132	198	666

Note: CRISIL Inclusix, India's first financial inclusion index, was launched in 2013 with the objective of creating a dependable yardstick that would become a policy input to further the cause of inclusion. CRISIL Inclusix weighs three service providers (banks, insurers and MFIs) on four dimensions (branch, credit, deposit and insurance).
Source: CRISIL Inclusix, CRISIL Research

Key steps taken by the Government to boost financial inclusion

To improve financial inclusion, especially in rural areas, the Government is focusing on improving the overall and rural infrastructure for penetration of financial services as well as empowering the development of parallel supporting institutions. This has provided an opportunity for payment banks and other financial institutions to cater to the unserved population or act as a channel between the larger financial institutions and other service providers to better serve the underserved customers.

Considerable progress has been made over the past 5-7 years to bring unbanked individuals into the formal banking system. The RBI and the Government have taken several measures, such as:

Pradhan Mantri Jan Dhan Yojana

Pradhan Mantri Jan Dhan Yojana (PMJDY), launched in August 2014, is aimed at ensuring affordable access to financial services – banking/savings and deposit accounts, remittances, credit, insurance, and pension.

PMJDY focuses on household coverage as compared with the earlier schemes that focused on coverage of villages. It aims to extend banking facilities to all within a reasonable distance in each sub-service area (consisting of 1,000-1,500 households) across India.

As on March 31, 2021, 422 million PMJDY accounts had been opened, of which, 66% were in rural and semi-urban areas, with total deposits of Rs.1455 billion.

Although the opening of Jan Dhan accounts has increased financial inclusion, the high proportion of zero-balance or dormant accounts is a concern. However, the number of inoperative accounts under PMJDY is declining, as per the official website of the Government of India. The data shows that the percentage of inoperative accounts (of total Jan Dhan accounts) declined from 76.8% in September 2014 to less than 14% in August 2020.

While the Government's move to route subsidies through this channel is a major reason for decreasing zero-balance accounts, the increased availability of low-cost financial instruments is popularising formal financial institutions amongst the unbanked population. In fact, since the launch of the insurance and pension Jan Suraksha schemes in August 2015, the proportion of dormant accounts has fallen. (*Source: Global Findex Database, 2017*)

With various other schemes, such as Pradhan Mantri Social Security Schemes including Pradhan Mantri Jeevan Jyoti Bima Yojana, Atal Pension Yojana and Pradhan Mantri Suraksha Bima Yojana being run under PMJDY, people have ample reason to enrol for the PMJDY.

Pradhan Mantri Suraksha Bima Yojana: PMSBY was launched on May 9, 2015. It offers a renewable one-year accidental death cum disability cover of Rupees 200,000 to all subscribing bank account holders in the age group of 18 to 70 years for a premium of Rs.12 per annum per subscriber. As of 26 May, 2021, 234 million people were enrolled under the scheme and 45,992 claims had been disbursed out of 59,461 claims received.

Pradhan Mantri Jeevan Jyoti Bima Yojana: PMJJBY was launched on May 9, 2015. It offers a renewable one year term life cover of Rs.200,000 to all subscribing bank account holders in the age group of 18 to 50 years, covering death due' to any reason, for a premium of Rs.330/- per annum per subscriber. The scheme is offered / administered through Life Insurance Company (LIC) and other life insurance providers willing to offer the product on similar terms. As on 26 May, 2021, 103 million people have been enrolled under this scheme and 244,197 claims have been disbursed out of 260,547 claims received.

Atal Pension Yojana: The Atal Pension Yojana (APY) was launched on May 9, 2015 to create a universal social security system for all Indians, especially the poor, the under-privileged and the workers in the unorganised sector. APY is administered by Pension Fund Regulatory and Development Authority (PFRDA). APY is open to all bank account holders in the age group of 18 to 40 years and the contributions differ, based on pension amount chosen. Subscribers would receive the guaranteed minimum monthly pension of Rs. 1,000 or Rs. 2,000 or Rs. 3,000 or Rs. 4,000 or Rs. 5,000 at the age of 60 years. As of March 31, 2021, there were more than 22 million subscribers for this scheme.

Pradhan Mantri Mudra Yojana ("PMMY"): PMMY is a scheme launched by the Hon'ble Prime Minister on April 8, 2015 for providing loans up to Rs 1 million to the non-corporate, non-farm small/micro enterprises. These loans are classified as Micro Units Development and Refinance Agency (MUDRA) loans under PMMY. These loans are given by Commercial Banks, Regional Rural Banks (RRBs), Small Finance Banks, MFIs and NBFCs. As of 31 July 2021, 306.1 million MUDRA loans worth more than Rs.16 trillion have been sanctioned.

Standup India Scheme: The scheme was launched by the Hon'ble Prime Minister on April 5, 2016. The objective of the scheme is to facilitate bank loans between Rs.1 million and Rs. 10 million to at least one Scheduled Caste (SC) or Scheduled Tribe (ST) borrower and at least one woman borrower per bank branch for setting up a Greenfield enterprise. This enterprise may be in manufacturing, services, agri-allied activities or the trading sector. In case of non-individual enterprises at least 51% of the shareholding and controlling stake should be held by either an SC/ST or woman entrepreneur. As of March 31, 2021, 117,560 applications amounting to more than Rs.265 billion have been sanctioned under the scheme.

Payment banks

Another step taken towards financial inclusion was the RBI granting in-principle approval on August 19, 2015 to 11 players to launch payment banks. The decision came after the recommendations from Nachiket Mor Committee to set up a specialized bank ("Payments Bank") to cater to the low income groups. After the licences were granted to 11 players, three players withdrew their application. Of the remaining eight, seven institutions – India Post Payments Bank Ltd, Airtel Payments Bank Ltd, PayTM Payments Bank Ltd, Fino Payments Bank, Aditya Birla Idea Payments Bank Ltd and Jio Payments Bank and NSDL Payments Bank had commenced operations. In 2019, Aditya Birla Payments Bank Ltd shut down its operations due to mounting losses.

The objective of a payments bank is to widen the spread of payment services and deposit products to small businesses, low-income households, migrant labour workers and other unorganized entities by enabling high volume low value transactions in deposits and payments/remittance services in a secured technology-driven environment.

Payment banks can accept deposits, subject to a cap of Rs. 200,000 per customer, and provide payment and remittance services through channels, such as the internet, branches, business correspondents (BCs) and mobile banking. (The deposit limit was enhanced to Rs.200, 000 from the earlier limit of Rs. 100,000 in April 2021.) However, these banks cannot offer credit facilities directly, but can choose to act as a BC of another bank for credit and other services.

Along with maintaining a cash reserve ratio (CRR) with the RBI, payment banks are required to invest a minimum of 75% of their demand deposit balance in Government securities eligible under the statutory liquidity ratio (SLR), with maturity of up to one year, and hold a maximum 25% in current and fixed deposits with Scheduled Commercial Banks (SCBs). As of March 31, 2020, the total deposits with payment banks stood at Rs 23 billion.

Small Finance Banks (SFBs)

As of July 2021, the RBI had awarded SFB licenses to 11 institutions, which aim to service the underserved customers through savings instruments, and supplying credit to small business units, small and marginal farmers, micro and small industries, and other unorganised sector/lending through informal channels. SFBs are also required to dedicate 75% of their Adjusted Net Bank Credit (ANBC) towards priority sector. As of March 31, 2021, SFB's have total deposits of Rs 876 billion in SURU region whereas total credit outstanding were Rs 1135 billion in SURU region. For the SFBs, nearly 20% of their deposits arise from the rural and semi-urban areas, whereas the credit view shows that 40% of their advances are extended in rural and semi-urban areas as of March 31, 2021. This has led to increasing credit penetration in rural areas, thereby ensuring financial inclusion.

MFI Institutions (MFIs)

MFIs have significant role to play in furthering financial inclusion, by providing small ticket loans to customers, usually for productive purposes. As of March 31, 2021, Microfinance segment has a total loan amount outstanding of Rs. 2279 billion of which 41% was financed by Banks and 31% by NBFC-MFIs.

White label ATM (WLAs)

ATM's set up, owned and operated by non-bank entities are called White label ATMs (WLAs). WLA companies plug into the banking network and allow customers of any bank to withdraw funds and also offer other services such as bill payment and cash deposit services. In return, WLAs charge fees from the card-issuing bank to provide the facility to bank customers. RBI has authorised non-bank ATM operators under Payment & Settlement Systems Act, 2007, in order to increase the ATM network especially in rural and semi-urban areas. In June 2013, Tata Communications Payment Solutions (Brand name – Indicash) a wholly owned subsidiary of Tata Communications launched the first

ATM in Tier-V town. India1 Payments Limited (formerly known as BTI Payments Private Limited) is the largest white label operator in India, based on the number of ATM transactions in Fiscal 2021 as well as on the basis of installed base of ATMs at the end of fiscal 2021.

In March 2019, RBI eased business guidelines for WLAs, allowing them to directly source cash from RBI in order to reduce the WLA operators' dependency on sponsor banks. This has resulted in higher availability of cash in all denominations and a reduction in transportation and operational costs for white label operators.

WLA operators in India

WLA operators	License approval date	Number of ATMs (September 30, 2021)
Tata Communications Payment Solutions	3rd May, 2013	6,799
Hitachi Payment Services	25th November, 2013	5,962
Vakrangee	23rd January, 2014	5,491
India1 Payments Limited	12th February, 2014	9,585

Source: RBI, CRISIL Research

Business Correspondents (BCs)

In one of its foremost measures, the RBI introduced the BC model of banking outreach in January 2006, aimed at leveraging information and communication technology to widen access to the banking system. BCs are retail agents engaged by banks to offer banking services at locations other than a bank branch/ATM. They are authorised to perform a variety of activities including collection of small-value deposits, disbursal of small-value credit, recovery of principal, collection of interest, sale of micro insurance, mutual fund products, pension products, other third-party products, and receipt and delivery of small value remittances/other payment instruments. In July 2014, the RBI allowed NBFC-MFIs to work with banks as BCs. As of December 2020, 360 million basic savings bank deposit accounts (BSBDA) were opened through BCs (*Source: RBI*)

Aadhaar

Adoption of Aadhaar and Aadhaar authentication in the Indian financial system is expected to transform the financial landscape. To increase financial inclusion, the Unique Identification Authority of India partnered with the RBI, National Payments Corporation of India (**NPCI**), Indian Banks Association (**IBA**) and banks to develop:

- Aadhaar Payments Bridge (**APB**) – The system was launched in 2011 to enable a smooth transfer of all Government welfare scheme payments to a beneficiary's Aadhaar Enabled Bank Account (**AEBA**)
- Aadhaar enabled payment system (**AEPS**) – A system that leverages Aadhaar online authentication and enables AEBAs to be operated in anytime-anywhere banking mode by the marginalised and financially excluded via micro ATMs

According to the Ministry of Electronics and IT, Aadhaar-generated unique identity covered over 99% of total estimated adult population of India, as of December 2020. An Aadhaar number will be used to verify the identity of a person receiving a subsidy or a service. Disbursements will take place through a centralised electronic benefit transfer system using the unique Aadhaar beneficiary numbers.

The Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Bill, 2016, came into effect on March 25, 2016, to strengthen the role of the Aadhaar card. The Bill aims at providing targeted delivery of subsidies and services to individuals residing in India by assigning them a unique Aadhaar numbers. To reduce the cost of consumer on-boarding and transactions, the Government launched IndiaStack. IndiaStack is a set of APIs that allows Government businesses, start-ups and developers to utilise a unique digital infrastructure to solve problems, such as presence-less, paperless and cashless services delivery.

Also, Aadhaar-enabled micropayments have many features, including elimination of the need for individual KYC requirements by banks for no-frills or basic accounts, and reductions in the direct and indirect KYC cost of financial institutions on account of the UIDAI's 'know your residence' standards being sufficient for authentication.

Aadhaar-enabled payments with clear authentication and verification process allow financial institutions to network with village-based BCs. Thus, customers will be able to withdraw money and make deposits at the local BC. UIDAI's authentication will help banks verify residents both in person and remotely. The electronic transfer, backed by UIDAI's authentication, will help residents transact electronically, reducing the cost of transactions. Also, it has helped reduce the KYC approval turnaround time from the previous 10-15 days, when the customer had to submit various documents for identity and address proof, to almost-instant KYC approval.

As per the Supreme Court's Judgment of September 2018, the Aadhaar Act was held constitutional, however, it was also held that Aadhaar cannot be made mandatory for availing banking services and body corporates/persons were restrained from using Aadhaar details pursuant to a contract only. It further held that the use of the Aadhaar must be backed by a legislation. Accordingly, the amendment in the legislation was brought about in February 2019, whereby banks were allowed to use Aadhaar for KYC but with customer consent. This enabled banks to open instant bank accounts using eKYC based on Aadhaar authentication through the OTP mode. The change in the RBI's KYC guidelines is in line with the changes made by the Government to the Prevention of Money-laundering Rules (PMLA) in February 2019 and the Aadhaar and Other Laws (Amendment) Ordinance, 2019 (passed in Lok Sabha in July 2019). The Department of Revenue, vide its circular issued in May 2019, had also notified that all regulated entities may approach their respective regulators to seek Aadhaar authentication facilities. However, fintech companies are still not allowed to use biometrics or OTP-based eKYC and are only permitted to use offline Aadhaar verification. Furthermore, maximum lending through OTP-based e-KYC is Rs. 60,000.

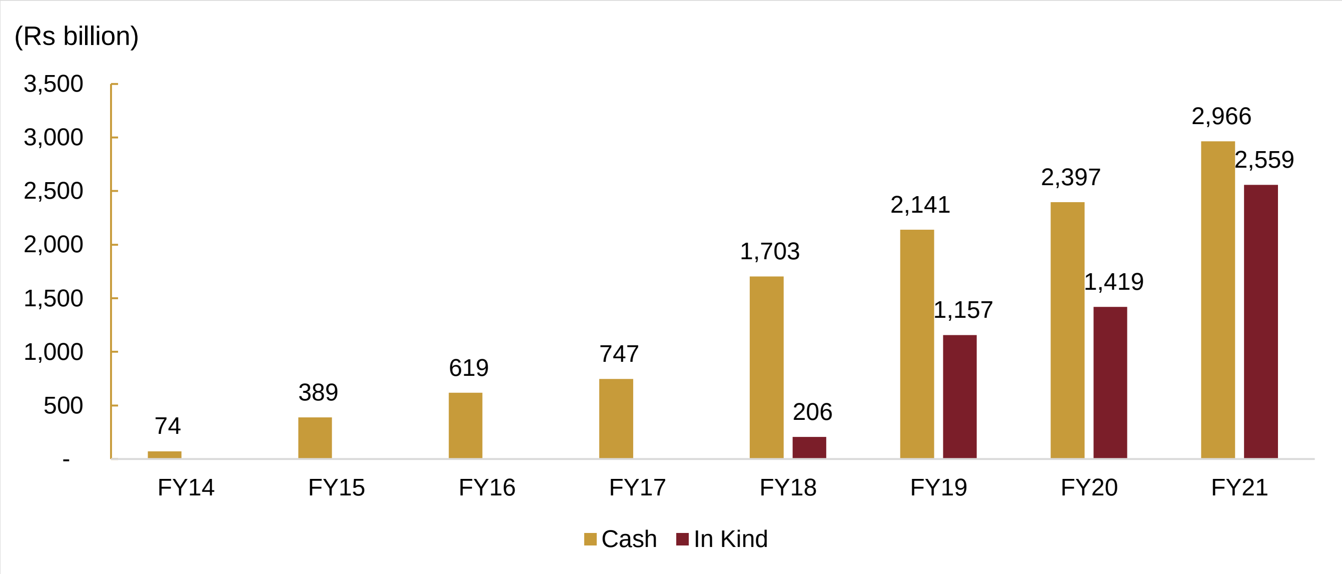
Digital India

An umbrella programme to transform India into a knowledge economy has supported the financial inclusion initiative. Some of the initiatives under this programme include development of digital infrastructure, delivery of Government services digitally and improvement in digital literacy, especially in rural India.

Some of the initiatives include:

- **Direct-benefit transfer:** As of end of Fiscal 2014, only 28 schemes were covered under the direct-benefit transfer ("DBT"), where the payment is directly done into the bank account of the beneficiary, this has grown to 318 schemes as of the end of Fiscal 2021 (Source: DBT Website). Benefit transfer in form of cash through the DBT mechanism has increased from approximately Rs. 2,141 billion in fiscal 2019 to Rs. 2,397 billion in fiscal 2020 to Rs 2,966 billion in fiscal 2021 and these inflows are driving demand for cash in SURU regions and in tier 5- and tier-6 towns and villages where this beneficiaries reside. This has resulted in fewer slippages, and faster and easier remittance to the intended. This, in turn, is expected to give rise to the usability of agent network for other related transactions, when the money is already in the bank accounts of customers. CRISIL Research expects the availability of funds in the bank accounts of the beneficiaries will support growth in digital transactions.

Amount transferred to beneficiaries through DBT



Note: DBT also includes in-kind transfers which includes transfer of goods and services at very low price or for free to the beneficiaries of various such Government schemes

Source: DBT website; CRISIL Research

- **Common service centres 2.0:** This is a service delivery-oriented entrepreneurship model, with a large variety of services made available for citizens. Under Digital India, at least one common service centre (**CSC**) was envisaged for each of the 250,000 gram panchayats, including the 100,000 operational CSCs launched in the initial version of the programme. The objectives of the programme include:

  - Non-discriminatory access to e-services for rural citizens
  - Expanding the self-sustaining CSC network to the gram panchayat level
  - Empowering District e-Governance Societies under the district administration for implementation
  - Creating and strengthening the institutional framework for rollout and project management, thereby supporting the state and district administrative machinery
  - Enabling and consolidating online services under a single technology platform
  - Providing a centralised technological platform for delivery of services, transparently to citizens
  - Increasing the sustainability of village-level entrepreneurs by sharing maximum commission earned through delivery of e-services and encouraging women to join as village-level entrepreneurs

The services to be provided at the CSCs include agriculture services, education and training services, rural banking and insurance services, entertainment services, utility services, healthcare services, and other commercial services.

- **BharatNet:** This project aims to provide 100 Mbps broadband connectivity to almost all the 0.25 million gram panchayats in the country. Under the first phase of the project, 100,000 gram panchayats were to be connected by laying underground optical fibre cable (OFC). Under Phase-II, targeted to be completed by March 2019, connectivity will be provided to the remaining 0.15 million gram panchayats, using an optimal mix of underground fibre, fibre over power lines, radio and satellite media. As per Bharat Broadband Network Limited (BBNL), ~0.14 million gram panchayats have been linked with this.

CRISIL Research expects, on completion, these projects will help catalyse the growth of digital services to the rural masses, and especially to the lower category of the population. This strengthening of digital infrastructure will help various sectors including healthcare, education, skills training, etc. It would provide the private enterprises with an opportunity to expand their services in these remote underserved areas.

Priority sector lending (PSL) aimed at facilitating financial inclusion

The definition of 'priority sector' was formalised in 1972, based on a report submitted by the Informal Study Group on Statistics, relating to advances to priority sectors, constituted by the RBI in May 1971. The requirement for PSL as a proportion of Adjusted NBC was set at 33.3% for SCBs in 1979, and raised to the current 40% in 1985.

Currently, the RBI's lending norms require every scheduled commercial banks (including foreign banks) to extend 40% of their adjusted net bank credit to certain eligible sectors including the agriculture and micro, small and medium enterprise sectors, Given the nature of such loans, a significant portion of priority sector loans are extend in semi-urban and rural areas.

Targets and sub-targets for banks were further classified under the priority sector and revised at intervals. As per the latest regulations, unveiled in 2015, medium enterprises, social infrastructure and renewable energy are part of the priority sector, in addition to the existing categories. Also, non-achievement of priority sector targets has been assessed on a quarterly average basis at the end of the respective year, from Fiscal 2017 onwards, instead of annually.

As per the RBI, these sub-divisions include:

- **Agriculture:** For all SCBs, 18% of the ANBC or the credit equivalent amount of off-balance sheet exposure (**CEOBE**), whichever is higher, is to be extended for agriculture. Within the 18% target for agriculture, a target of 10% of ANBC or CEOBE, whichever is higher, has been prescribed for small and marginal farmers. Also, the sub-target of 10% of ANBC or the CEOBE, whichever is higher, is applicable for foreign banks with 20 branches or more, for lending to small and marginal farmers.

- **Social infrastructure:** A maximum bank loan of Rs. 50 million will be extended per borrower to build social infrastructure, including schools, healthcare, drinking water, and sanitation facilities, as well as construction/ refurbishment of household toilets and household-level water improvements in tier II to VI centres. Bank credit to MFIs, extended for on-lending to individuals and to members of self-help groups (SHGs)/ joint lending groups for water and sanitation facilities, will be eligible for categorisation as the priority sector under 'social infrastructure'.

- **Renewable energy**: Bank loans up to Rs. 150 million will be given to borrowers for solar-based power generators, biomass-based power generators, wind mills, micro-hydel plants, and for non-conventional energy-based public utilities (street lighting systems), and remote village electrification. For individual households, the loan limit is Rs. 1 million per borrower.

- **Microcredit:** As much as 7.5% of ANBC or the CEOBE for all SCBs should be given in the form of microcredit. Further, the sub-target of 7.5% of ANBC or CEOBE, whichever is higher, for banks lending to microenterprises will also be applicable to foreign banks with 20 branches and above from Fiscal 2019.
- The RBI has also removed the currently applicable loan limits of Rs. 50 million and Rs. 100 million per borrower to micro/small and medium enterprises (services), respectively, for classification under the priority sector. Accordingly, all bank loans to MSMEs, engaged in the provision or rendering of services as defined in terms of investment in equipment under the Micro, Small and Medium Enterprises Development Act, 2006, will qualify under the priority sector without any credit cap.
- **Advances to weaker sections:** 12% of ANBC or the CEOBE, whichever is higher, must to be extended to weaker sections. Foreign banks with 20 branches or more had to achieve the weaker sections target within five years, between April 1, 2013 and March 31, 2018, as per the action plan submitted by them and approved by the RBI.
- **Education loans:** These include loans and advances granted to individuals only for educational purposes, including vocational courses, of up to Rs. 1 million. These loans and advances will be considered eligible for the priority sector.
- **Housing:** The Government has tried to bring greater convergence of PSL guidelines for housing loans with the Affordable Housing Scheme and boost low-cost housing for economically weaker sections and lower income groups. Thus, it decided to revise the housing loan limits for PSL eligibility from the existing Rs. 2.8 million to Rs. 3.5 million in metropolitan centres (with a population of 1 million and above), and from the existing Rs. 2 million to Rs. 2.5 million in other centres, provided the overall cost of the dwelling unit in the metropolitan centre and at other centres does not exceed Rs. 4.5 million and Rs. 3 million, respectively.

For foreign banks with less than 20 branches, no specific sub-targets for sectors are laid out. For these banks, up to 32% can be in the form of lending to exports and not less than 8% can be to any other priority sector.

In September 2020, RBI unveiled new guidelines for PSL, wherein higher weights would be assigned to districts having a relatively lower credit penetration. From FY22, a weight of 125% would be assigned to incremental priority sector credit in identified districts where credit flow is lower and per capita PSL is lower than Rs. 6,000. A lower weight of 90% will be assigned to incremental PSL in identified districts where credit flow is relatively higher and per capita PSL is more than Rs. 25,000. Other districts will continue to have the existing weightage of 100%. This will incentivise credit flow to credit deficient geographies.

Business opportunities available owing to financial inclusion on the asset and liability side

Factors such as lack of documents, migration of individuals for work or other purposes, lack of transaction history with financial institutions, etc., have led to low inclusion of households in the financial system. Also, the costs involved in setting up a network to serve the traditionally ignored categories, such as migrants, rural population, retailers, shop owners, and MSMEs, is high.

In addition, the gap between various regions of the country, as highlighted above, is very wide. However, owing to the Government's emphasis and growth of the banking facility in these regions, the gap is slowly getting plugged. This gives financial institutions an opportunity to expand their services in underserved regions.

Key business opportunities among various population categories - assets and liabilites

Migrants - ~100 million migrant workforce

- Remittance services
- Account services
- Deposit services

Retailers - ~24-25 million retail outlets

- Payments
- Loans
- Digitalisation of business functions

MSME - ~63.4 million businesses

- MSME loans
- Working capital finance
- Fee-based services

Rural population - ~ 66% of India's population

- Basic banking services
- Personal loans
- Bill payments and bookings
- Investment in mutual funds and insurance products
- Education loans
- Gold loans

Source: CRISIL Research

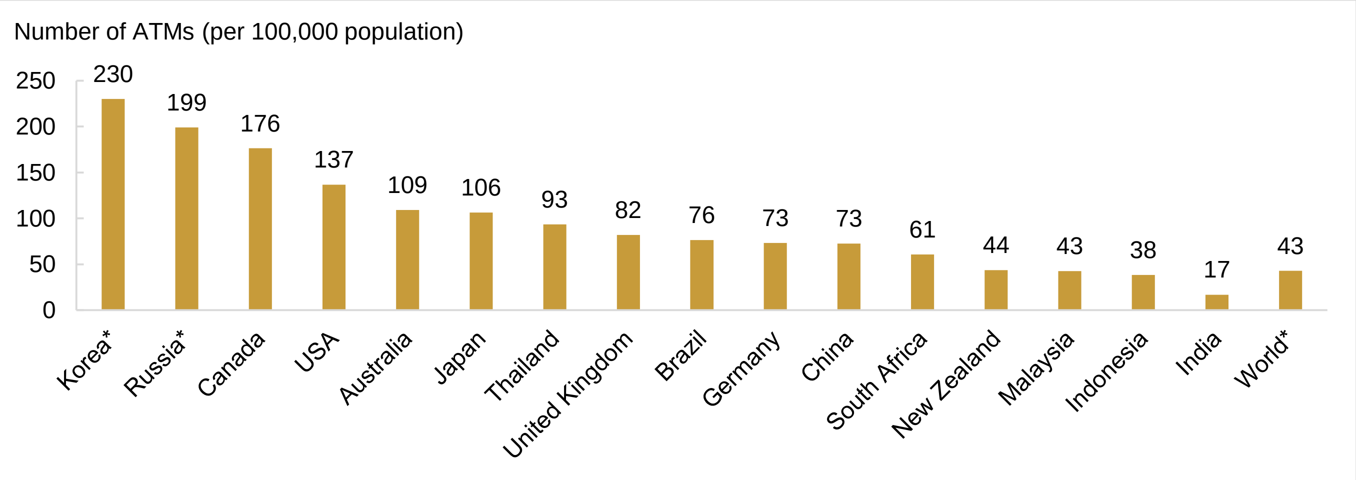
Global ATM Industry

An automated teller machine (ATM) is an electronic device that facilitates 24/7 availability of banking services to the customers. It provides them access to basic transactions of bank such as cash deposits, withdrawals, checking account balance and assisted digital services (bill payments, transfers etc.) without the aid of a physical branch.

Most major economies have higher ATM penetration than world average

In many developed as well as developing countries, number of ATM terminals deployed per 100,000 people is higher than world average. Countries like United Kingdom, Russia, United States and Canada have highest number of ATM terminals deployed per 100,000 people. Some countries like India, Indonesia and Malaysia are still lagging behind and have lower ATM penetration comapred to the world average. CRISIL Research believes that rise in number of ATMs in relatively under-penetrated countries will propel growth for the global ATM market.

Number of ATM terminals (per 100,000 adults) (Calendar year 2020)

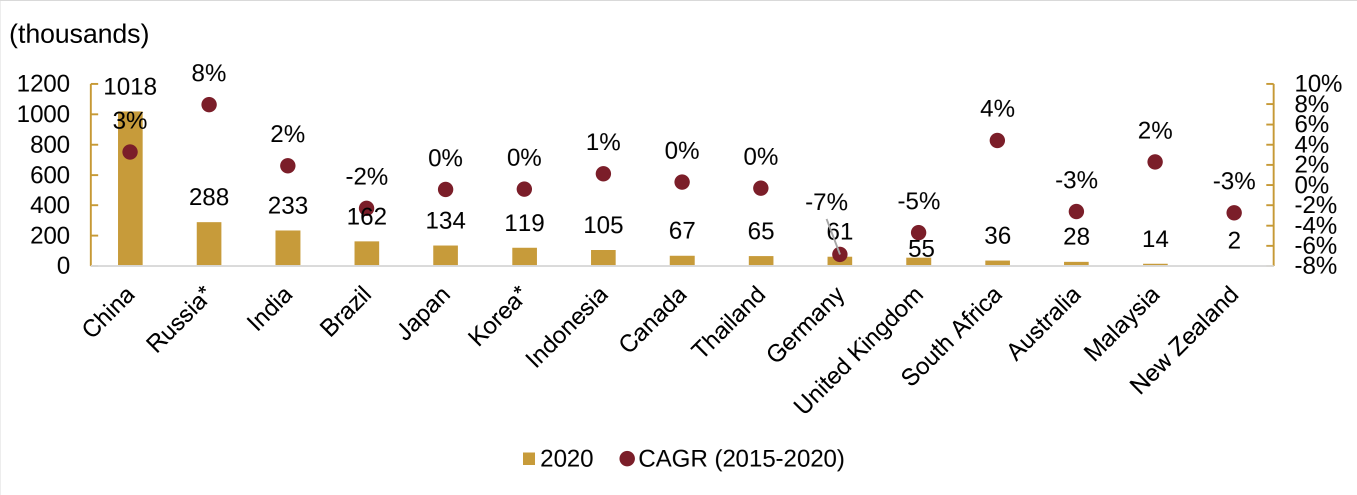


*Note: * Data for calendar year 2019*

Source: Company Reports[13], IMF, World Bank, BIS, RBI, House of Commons Library, UK[9], European Association for Secure Transactions (EAST)[10], CRISIL Research

Some markets like United Kingdom, Korea, Australia, which have relatively higher ATM penetration, are highly saturated, which led to slower growth in ATMs deployed in these economies in recent years. However, in countries like India, Russia, China, South Africa, Malaysia, number of ATMs deployed have seen a modest growth in last few years between calendar year 2015 and 2020.

Number of ATM terminals and past growth in major economies



Note: (*): Data as of 2019

Source: Bank of International Settlements (BIS), International Monetary Fund (IMF), Reserve Bank of India (RBI), House of Commons Library, UK, European Association for Secure Transactions (EAST)

The growth in ATM terminals in developing countries and relative stability in the number of ATM terminals installed even in developed markets could be attributed to cash being a store of value, continuing preference amongst some customers towards using cash for making payments, and increase in the number of services performed by an ATM with integration of different banking functions in a single machine. Integration of newer technologies such as contactless payments, QR codes and under penetration in developing economies is expected to offer opportunities for market growth globally.

Digital transactions on rise in most of the major economies, but cash still plays an important role

The proliferation of payment options and increasingly frictionless methods of payment other than cash, including credit cards, debit cards, stored-value debit cards, contactless, and mobile payments options had led to reduced need for cash in the marketplace and a resulting decline in the usage of ATMs. The U.S., the U.K., Canada, Australia, Germany, and other developed markets have seen a shift in consumer payment trends with more customers now opting for electronic forms of payment (e.g., credit cards and debit cards) for their in-store purchases over traditional paper-based forms of payment (e.g., cash and cheques). Additionally, some merchants offer free cash back at the point-of-sale ("POS") for customers that utilize debit cards for their purchases, thus providing an additional incentive for consumers to use these cards. Increasingly, frictionless payment options, like contactless payments are also being used by consumers.

According to data from Bank of International Settlements, share of digital transacitons (includes credit transfer, direct debits, cards and e-money payments and excludes cash and cheque based transactions) for various economies has increased between calendar year 2015 and calendar year 2019. Developing countries like India and China have witnessed significant improvement in share of digital transactions both in terms of volume and value. On the other hand, countries like Germany and Indonesia have not seen significant increase in share of digital transactions.

Change in share of digital transactions in terms of volume and value across countries

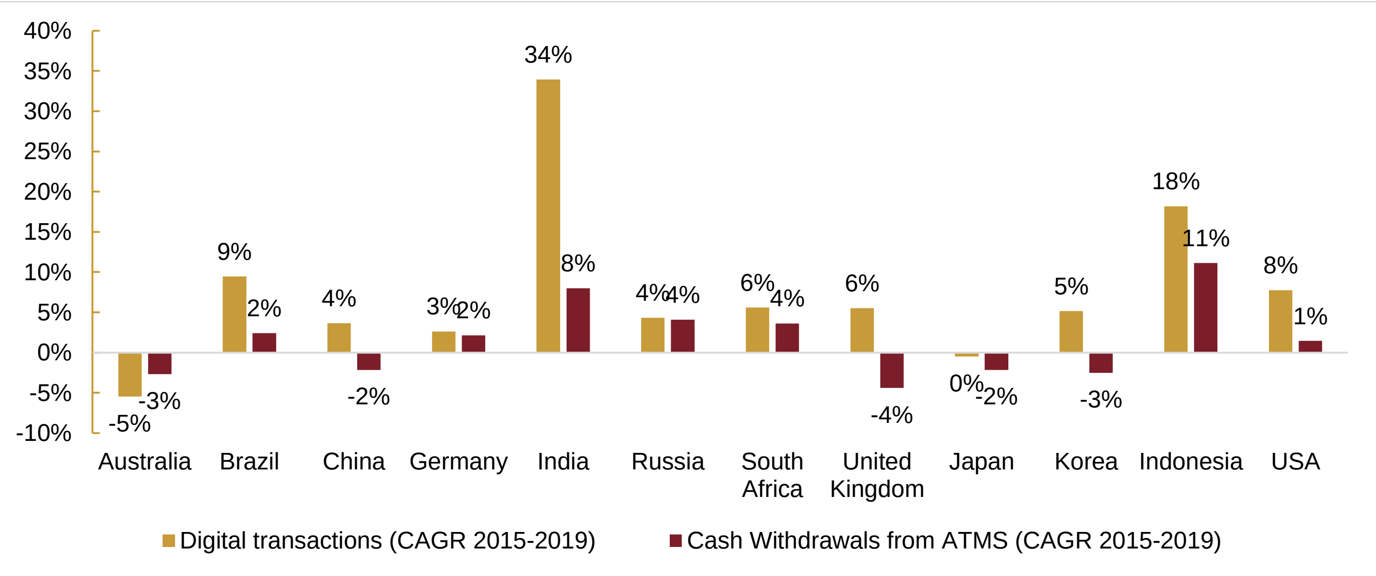
	Share of digital transactions in terms of volume		Share of digital transactions in terms of value	
Year	**2015**	**2019**	**2015**	**2019**
Australia	89%	94%	91%	94%
Brazil	85%	91%	91%	95%
Canada	52%	55%	52%	59%
China	71%	97%	89%	95%
Germany	91%	91%	98%	98%
India	39%	75%	47%	73%
Indonesia	67%	67%	89%	91%
Japan	95%	97%	91%	94%
Korea	98%	99%	76%	84%
Russia	71%	86%	96%	97%
South Africa	72%	78%	95%	95%
UK	90%	95%	99%	99%
USA	83%	90%	66%	74%

Note: Total transactions include credit transfer, direct debits, cards and e-money payments, cash withdrawals and deposits and cheque based transactions. Digital transactions include credit transfer, direct debits, cards and e-money payments and excludes cash and cheque based transactions

Source: Bank of International Settlements, CRISIL Research

Over calendar year 2015 and 2019, digital transactions have witnessed strong growth in most of the countries. However, cash withdawal transactions from ATMs have also witnessed growth in most of the countries, indicating preference amongst a section of customers for cash usage. Further, a single cash withdrawal transaction at ATM translates into multiple other cash transactions.

Growth in digital transaction value and cash withdrawal transaction value over 2015 and 2019



Note: Digital transactions include credit transfer, direct debits, cards and e-money payments and excludes cash and cheque based transactions

Source: Bank of International Settlements, CRISIL Research

Cash is one of the most popular options to pay for goods and services around the world. Cash continues to provide consumers with a convenient, low cost, safe and universally accepted way of paying for virtually any good or service at any time, under any conditions and is not dependent on any external technology for the payment to be processed. In developing countries, usage of cash is more common owing to lower penetration of banking services and internet services. But in developed countries with higher digital, banking and internet penetration too, several consumers still have a preference for cash as a mode of payment.

A recent report published by Cardtronics (Health of Cash Check-up report, May 2020), a leading global player in ATM Industry, brings out the importance of cash in the US economy. In the country, cash continues to be the preferred method of payment, especially for small value transactions. The report states that more than 50% of the consumers prefer cash as a mode of transaction for purchases under $10 and nearly a quarter chose cash as a payment method for purchases of $10-20. Cash is also a preferred payment method for smaller ticket items and quick stops at convenience stores, coffee shops, etc.

In the United States, underbanked consumers use cash substantially more than other consumers. According to the Federal Reserve, underbanked (had bank accounts but made use of alternative financial services) and unbanked (adults who do not have a checking, savings, or money market account) consumers make up nearly a fifth of the U.S. population, with 5 percent unbanked and 13 percent underbanked as of calendar year 2020. The underbanked population is diverse but includes more Americans with lower incomes. According to the same report, for the underbanked, cash is by far the most extensive payment method used while credit is used much less than the general public.

In July 2021, the House of Commons Library, UK published a report named “Protecting access to cash” highlighting that the usage of cash has declined in UK over the years, but it still remains a key payment method. In calendar year 2019, cash still accounted for 23% of all payments and was second most common form of payment. Moreover, UK Finance in its report “Future Ready Payments 2030” stated that consumers continue to use cash, particularly for spontaneous payments such as retail payments (30% of payments are in cash), person-to-person (P2P) payments (39% of payments are in cash) and entertainment payments (37% of the payments are in cash) in calendar year 2019.

In Canada as well, cash remains a predominant mode of transaction while making low value transactions. According to a consumer survey conducted by Bank of Canada, while the share of cash transactions is declined, 40% of the number of transactions made for purchases under CAD 15 are through cash and approximately 30% of the transactions made for purchases of CAD 15-20 are through cash as of calendar year 2020. Moreover, the report also stated that almost 80% of the Canadians reported that they have no plans of going cashless in the next five years.

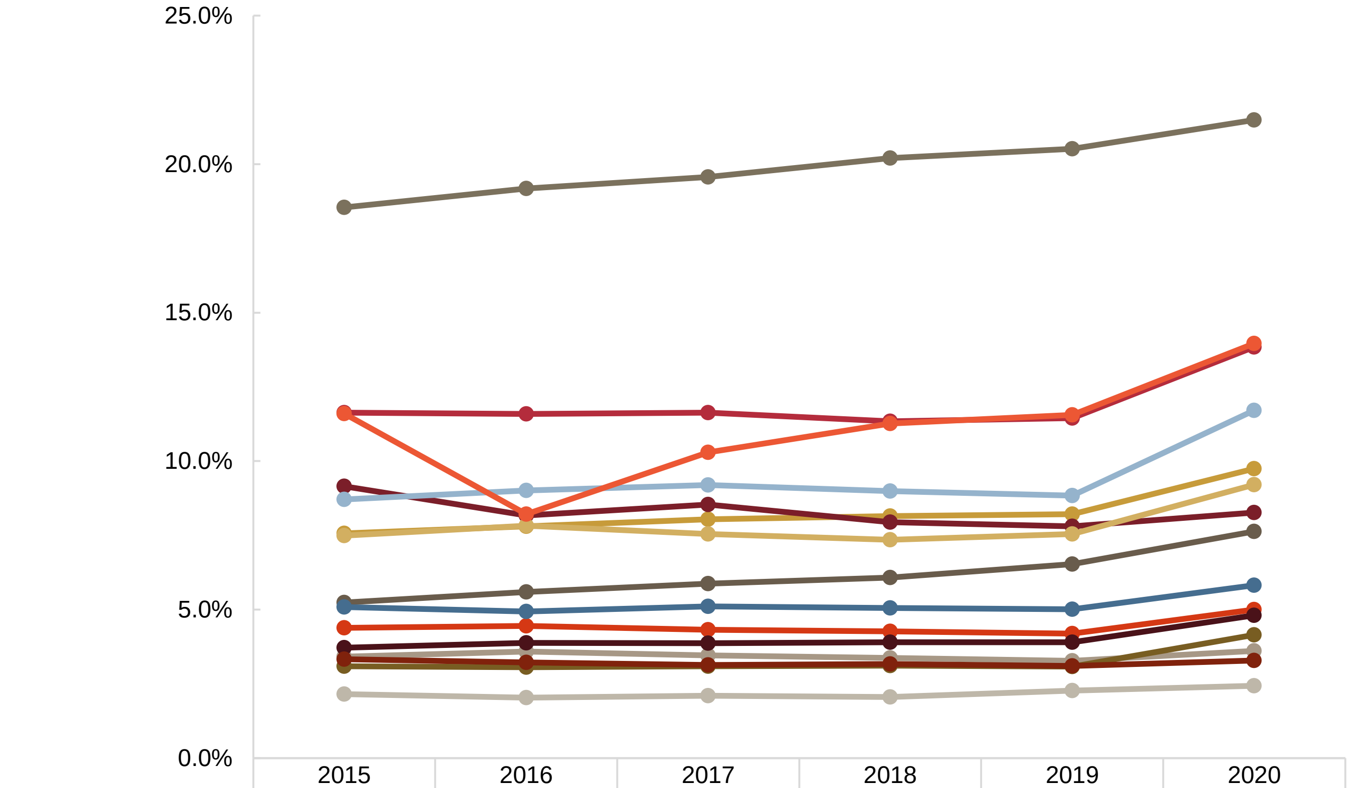
Cash in Circulation has also witnessed an increasing trend across countries over the years

Although digital payments penetration has increased exponentially across the world, cash in circulation for most of the major economis has witnessed an increasing trend. While digital payments are increasingly becoming popular, cash also remains a significant mode of doing day-to-day transactions. Even in developed countries, where share of digital transactions is high, cash in circulation to GDP ratio has increased and remained high over the years. For example, in USA, cash in circulation increased from 7.6% in calendar year 2015 to 9.7% in calendar year 2020. In South Korea as well, where mobile phones and high-speed data connectivity are ubiquitous, the cash in circulation as a percentage of GDP has increased from 5.2% in 2015 to 7.6% in calendar year 2020. Developing countries in

Asia such as Malaysia and Thailand too have witnessed an increase in cash in circulation to GDP over a 5-year period.

In India, where rural economy contributes to almost half of the GDP and accounts for 65% of the population, prevalance of cash and its usage is quite significant. India has the second highest CIC to GDP ratio followed by Thailand, Russia and United States.

Trend in CIC to GDP ratio over the years for major economies



	2015	2016	2017	2018	2019	2020
USA	7.6%	7.8%	8.0%	8.2%	8.2%	9.7%
China	9.1%	8.2%	8.5%	7.9%	7.8%	8.3%
Australia	4.4%	4.5%	4.3%	4.3%	4.2%	5.0%
New Zealand*	2.2%	2.0%	2.1%	2.1%	2.3%	2.4%
UK^	3.4%	3.6%	3.5%	3.4%	3.3%	3.6%
Russia	8.7%	9.0%	9.2%	9.0%	8.8%	11.7%
Brazil	3.1%	3.1%	3.1%	3.1%	3.1%	4.1%
Canada**	3.7%	3.9%	3.9%	3.9%	3.9%	4.8%
South Africa^	3.3%	3.2%	3.1%	3.2%	3.1%	3.3%
Japan**	18.5%	19.2%	19.6%	20.2%	20.5%	21.5%
Korea	5.2%	5.6%	5.9%	6.1%	6.5%	7.6%
Indonesia	5.1%	4.9%	5.1%	5.0%	5.0%	5.8%
Malaysia	7.5%	7.8%	7.5%	7.3%	7.5%	9.2%
Thailand	11.6%	11.6%	11.6%	11.3%	11.5%	13.8%
India*	11.6%	8.2%	10.3%	11.3%	11.6%	14.0%

Note: Above data is for calendar years, (*) Data as of end of March of next calendar year is used for CIC and GDP, (**) Data as of end of March of next calendar year is used for CIC and data for the calendar year is used for GDP, (^) Data as of end of February of next calendar year is used for CIC and data for the calendar year is used for GDP

Source: Central Banks of all countries[14-27], Bank of International Settlements, World Bank, CRISIL Research

In calendar year 2020, the Covid-19 pandemic led to rise in digital payments owing to lockdowns in various countries and consumers avoiding cash transactions from a safety perspective. This impacted the cash transactions for the day-to-day activities. ATM cash withdrawals also declined for most of the countries. However, with economies returning to normal, low value cash transactions are expected to regain popularity owing to the comfort and convenience offered. While the transactions in cash declined, the cash in circulation for all countries witnessed a strong growth in 2020, even when nominal GDP declined for many countries. Cash in circulation for all countries has grown at a higher CAGR than the nominal GDP growth over calendar years 2015 and 2019.

Cash in circulation and GDP growth trend in developed and developing countries

CIC growth	Cash in circulation (y-o-y growth)							GDP (y-o-y growth)						
Developed countries	2015	2016	2017	2018	2019	2020	Jun 21	2015	2016	2017	2018	2019	2020	2021 P
Australia	8%	5%	3%	4%	3%	17%	6%	2%	4%	6%	5%	5%	-1%	7%
Canada**	7%	6%	5%	5%	4%	18%	13%	0%	2%	6%	4%	4%	-5%	10%
Japan**	6%	4%	4%	3%	2%	6%	3%	3%	1%	2%	0%	0%	1%	3%
New Zealand*	11%	1%	11%	3%	16%	8%	NA	5%	6%	7%	5%	5%	1%	5%
UK^	7%	8%	0%	1%	0%	14%	NA	5%	3%	4%	4%	4%	4%	8%
USA	6%	6%	7%	7%	5%	16%	11%	4%	3%	4%	5%	4%	-2%	9%
Developing countries														
Brazil	4%	4%	6%	7%	5%	35%	5%	4%	5%	5%	6%	6%	1%	10%
China	5%	-3%	16%	3%	5%	9%	6%	7%	8%	11%	10%	7%	3%	12%
India*	15%	-21%	39%	21%	10%	17%	12%	10%	12%	11%	11%	8%	-3%	14%
Indonesia	11%	4%	13%	8%	6%	13%	12%	9%	8%	10%	9%	7%	-3%	6%
Korea	16%	12%	11%	7%	9%	17%	15%#	6%	5%	5%	3%	1%	0%	5%
Malaysia	13%	11%	6%	3%	7%	14%	13%	6%	6%	10%	5%	5%	-6%	9%
Russia	1%	7%	9%	11%	3%	30%	14%#	5%	3%	7%	13%	5%	-2%	12%
South Africa^	8%	3%	5%	8%	2%	10%	4%^^	7%	6%	8%	7%	5%	4%	8%
Thailand	3%	6%	7%	3%	4%	12%	6%	4%	6%	6%	6%	3%	-7%	3%

Note: (*) Data as of end of March of next calendar year is used for CIC and GDP, (**) Data as of end of March of next calendar year is used for CIC and data for the calendar year is used for GDP, (^) Data as of end of February of next calendar year is used for CIC and data for the calendar year is used for GDP, (#) Y-o-Y growth is calculated on May 2021 and May 2020 numbers, (^^) Y-o-Y growth is calculated on April 2021 and April 2020 numbers, NA – Not available, P - Projected

Source: Central Banks of all countries[14-27], Bank of International Settlements, IMF, World Bank, CRISIL Research

Business models in Global ATM Industry

- **Conventional/Banks ATMs** are owned and deployed by banks to offer routine financial services to customers at both on-site (inside bank branches) and off-site (other than bank branches) locations. In this model, the cost of deployment, operations and maintenance of the ATMs is borne by the banks.

- **White label ATMs** are owned by non-banking entities that set up and operate their own ATMs. The ATMs set up under this business model carry the brand name of the White label ATM Operators (WLAOs), and customers, irrespective of which bank they have a an account with, can use these ATMs for their banking transactions. These WLAOs charge an interchange fee to banks for each transaction made by the bank customer at these ATMs. Growth, in the case of WLAOs, is completely dependent on the operators' own strategy for adding ATMs and attracting customer footfalls, and is not dependent on the expansion plan of banks. In the global ATM industry, some WLAOs operate surcharging, or pay-to-use ATMs, where the consumers pay a convenience fee to access cash. However, in India, this model does not exist.

- **Brown label ATMs** are ATMs in which third-party service providers own and manage the ATMs under the bank's brand name for a contracted period. BLA operators also provide outsourcing services to the partner banks. Brown Label ATMs are driven by partner bank's decision to add ATMs. Unlike the WLAO model, the ATMs continue to carry the brand name of the partner bank in the case of brown label ATMs. In this model, banks pay fees to the BLA vendors for providing ATM services on behalf of them.

- **ATM Managed Service Providers (MSPs)** deal with as well as manage professional ATM services. Their services include operations and management of ATM network owned by partner banks, cash management, deposit collection & delivery, ATM replenishment and currency management, bank customer service, and on-screen advertising. Under this model, banks generally pay the MSPs a fixed monthly service fee, a fee per transaction, or a fee per service provided in exchange for handling some or all of the operational aspects associated with operating and maintaining ATMs.

Key trends in Global ATM Industry

Share of IADs continue to increase in developed markets

In developed economies like in the US and UK, expansion of retail banking services through digital channels has led to financial institutions de-emphasising traditional physical branches and conventional ATMs to reduce operational costs. This has resulted in an increase in share of Independent ATM Deployers (IADs)/ White label ATMs. The adoption of white label ATMs has increased owing to factors such as high initial investment and high maintenance costs for banks deploying conventional ATMs. Moreover, these ATMs enable banks to expand their ATM network as well as reduce the complexities involved in setting up ATMs in low footfall areas, thus driving their adoption in the industry.

According to Protecting Access to Cash Report (July 2021), published by The House of Commons Library, UK, IADs have a share of 57% in total ATMs deployed in the country as of calendar year 2020. In other countries like the US and Canada also, IADs have significant share of over 60% in total ATMs deployed as of calendar year 2020. In Australia as well, share of IADs is around 55-60% as of calendar year 2020. However, in Germany, only 5-10% of the ATMs deployed are by IADs as of calendar year 2020.

In developing countries like India, share of IADs is only 10% as of March 2021. In recent years, however, banks have slowed down the ATM deployment in the country. During the last two fiscal years ending March 2021, for example, IADs enjoyed a market share of ~33% in net incremental ATM deployments in the country *(calculated by subtracting ATMs deployed as of March 2021 minus ATMs deployed as of March 2019 for each operator)* . This provides huge opportunity and potential for the IADs in the country to deploy more ATMs and increase the share.

Sophistication and technology innovation in ATMs on the rise

The global ATM industry will be further bolstered by rising sophistication of the deployed ATMs as banks look to fulfil all transactions, which were previously conducted at the teller through use of digital only branches. This includes depositing cash and cheques, payment of bills, conducting eKYC, and cross selling other products such as mutual funds and insurance. In fact, ATMs are increasingly being positioned as bank in a box. Accordingly, e-lobbies (includes cash-deposit facility, internet banking, bill payment and other basic banking services) and cash recyclers embedded machines are now installed instead of only cash withdrawal ATMs to enhance customer experience. ATMs are thus transforming from simple cash dispensing machines to more personalized and richer communication channel. This has helped to achieve customer loyalty by making available a wider range of value added services. Furthermore, easy access of complex services such as bill transfer, transfer of money between accounts, and cheque clearance at ATM devices help financial institutions to enhance efficiency of banks.

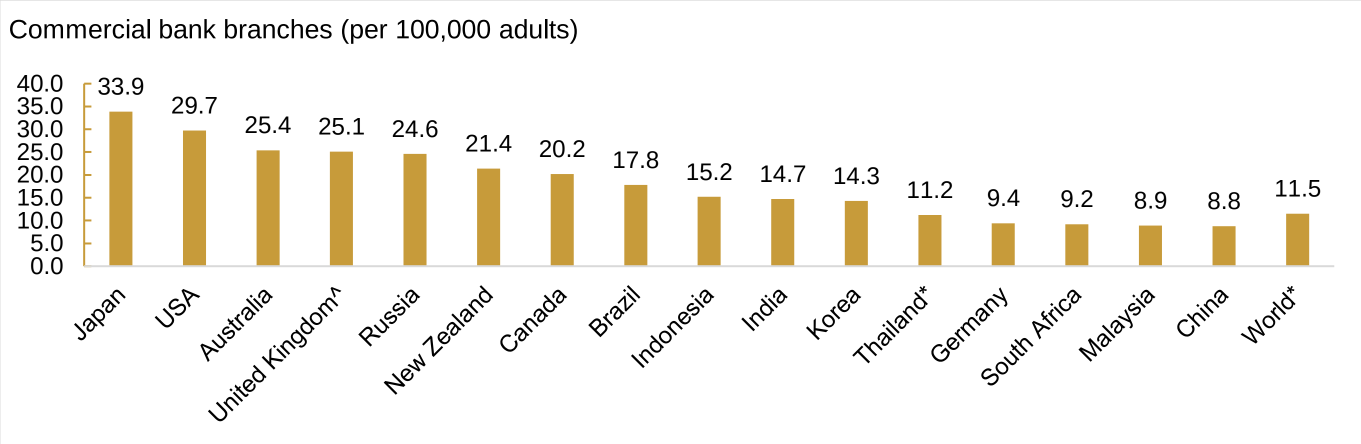
With the advent of these new age ATMs, social contact between the customer and banks' representative is minimal. Many banks are also using ATM sites to set up virtual branches, offering year round customer service, in malls and office complex through video as a channel.

Reduction of physical branches by financial institutions in several developed markets

With the expansion of retail banking services available through digital channels, such as online and mobile, and financial institution customers' adoption of these digital channels, many financial institutions in the US, UK and other developed countries have reduced focus on traditional physical branches. Instead, the focus is on shifting more customer transactions to online and ATMs, which has helped financial institutions lower their operating costs. However, bank customers still consider convenient access to ATMs to be an important criteria for maintaining an account with a particular financial institution. This has led to business opportunities for IADs, which set up ATMs and provide access customers of multiple partner banks with convenient access to ATMs.

In developing countries, branch penetration is lower compared to developed countries. With advancement in technology, ATM terminals can be used to integrate other banking services. This will lead to operational efficiencies and eliminate the need to open branches at every location.

Bank branch penetration relatively lower in developing countries



Note: (*) – Data as of 2019, (^) – Data as of 2013

Source: World Bank, RBI, CRISIL Research

Adoption of smart ATMs to reduce frauds

To reduce the risk of ATM frauds through card skimming and trapping, smart ATMs have been introduced which uses near field communication (NFC) to communicate with the smartphones of the customer. This allows wireless communication between ATM and mobile application by generating code that customers can use to unlock their bank accounts and withdraw money with a tap on a mobile device. This has reduced the burden of carrying ATM cards. Furthermore, integration of advanced security features such as voice recognication, facial recognition and biometrics is also expected to provide additional advantage in securing customers financial transactions.

M&A trends in the industry

In the global ATM Industry, quite a few mergers and acquisitions have taken place over the years. The details of M&A in the past 2-3 years have been tabulated as below:

Date	M&A Transaction	Details
June 2021	NCR Corporation acquired Cardtronics	• NCR Corporation is a leading software- and services-led enterprise provider in the financial, retail and hospitality industries. • Cardtronics is a leader in financial self-service, enabling cash transactions at over 285,000 ATMs across 10 countries in North America, Europe, Asia-Pacific, and Africa. • On January 25, 2021, NCR and Cardtronics announced that they had entered into a definitive agreement under which NCR would acquire all outstanding shares of Cardtronics for $39.00 per share in an all-cash transaction with an enterprise value of approximately $2.5 billion, including debt.

April 2021	EuroNet Worldwide Acquires Dolphin Debit	• Euronet Worldwide is an industry leader in processing secure electronic financial transactions. Euronet's global payment network is extensive - including 46,070 ATMs, approximately 330,000 EFT POS terminals and a growing portfolio of outsourced debit and credit card services • Dolphin Debit's ATM outsourcing solution offered complete end-to-end operations including the ownership of the equipment, hardware and software maintenance, cash management, compliance upgrades and all other services needed to efficiently operate the ATM fleet. • Dolphin Debit (Dolphin) provided comprehensive ATM outsourcing of more than 1,900 ATMs for its approximately 300 bank and credit union customers across the United States.
July 2019	Hitachi-Omron acquired Interblocks	• Hitachi-Omron Terminal Solutions, headquartered in Tokyo, Japan, is a member of Hitachi Group and a leading vendor of Cash Recycling ATMs in the world. • Interblocks provides a broad product lineup designed to connect with multiple banking channels, such as ATMs, Point Of Sale (POS), mobile terminals, and more. • This acquisition enabled Hitachi-Omron Terminal Solutions to accelerate the development of solutions that accommodate cash and non-cash transaction channels such as Automated Teller Machines (ATMs), bank counters, mobile banking or smartphone-based payment for the global market including India and Southeast Asia, which Hitachi-Omron Terminal Solutions focuses on.

Source: Company Reports, CRISIL Research

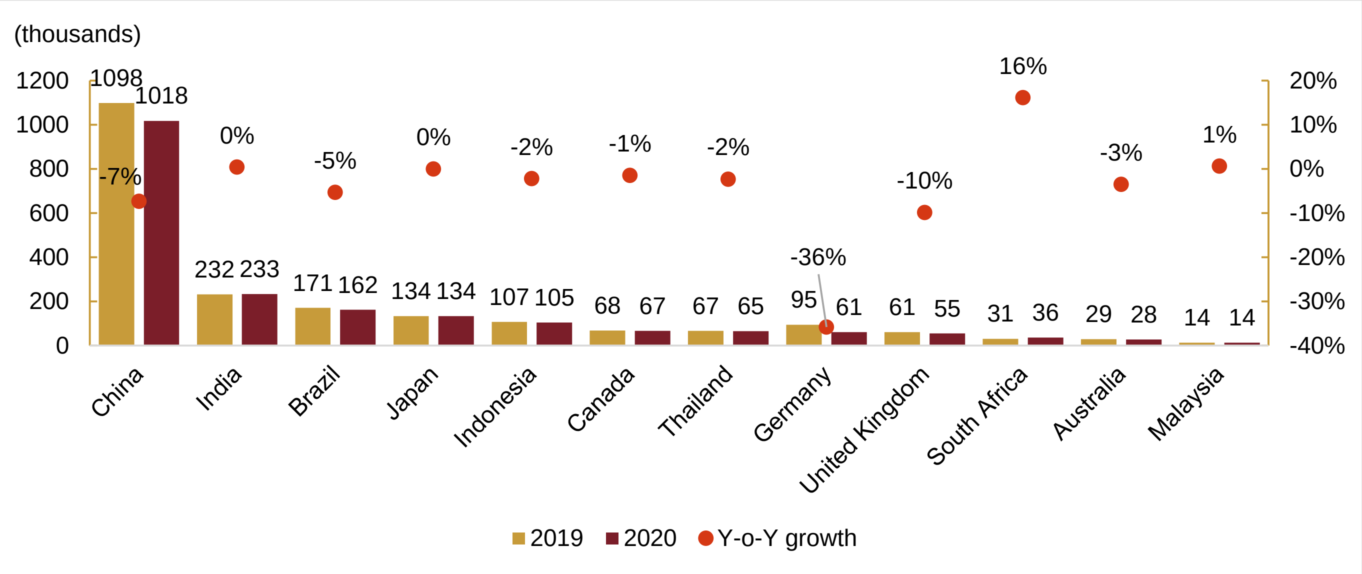
Covid-19 led to some headwinds in the global ATM industry

On March 11, 2020, the World Health Organization declared covid-19 a global pandemic which triggered national lockdowns in many countries. This adversely affected the footfalls at ATM locations and lowered the demand for cash. This caused many ATMs being permanently removed or temporarily closed. Locations such as casinos, theme parks, malls, tourist-focused ATMs, education facilities and other ATM sites remained closed for majority of the year and banks and independent ATM deployers (IADs) removed some machines from these locations owing to decreased transaction volumes. The national governments and central banks also promoted cashless payments as a hygienic alternative because of which many banks and IADs focused on maintaining and replenishing their existing network of deployed ATMs rather than making fresh investments to increase their new installations, which slowed the growth of ATM industry.

In calendar year 2020, most countries witnessed negative or zero growth in number of ATM terminals deployed. In Germany the number of ATMs deployed reduced by highest rate of 36% followed by 12% in New Zealand, 10% in UK, 7% in China and 5% in Brazil. One of the largest players in the global ATM market, Cardtronics, witnessed a decline of 6% in total number of transacting ATM in 2020 compared to previous year. Conversely, some countries like South Africa witnessed growth of 16% in ATM terminals deployed in calendar year 2020. In 2020, total revenues for Cardtronics declined by 19% compared to growth of 0.3% in 2019 due to lockdown during covid-19 pandemic.

In India, the number of ATMs grew to 238,588 as of March 31, 2021. Cash withdrawal transaction in India declined by 13% to Rs 28.9 trillion in fiscal 2021 from Rs 33.1 trillion in fiscal 2020. Stringent lockdowns due to the pandemic led to lower activity in cash transactions during fiscal 2021.

Number of ATM terminals in 2019 and 2020



Source: Bank of International Settlements (BIS), International Monetary Fund (IMF), Reserve Bank of India (RBI), House of Commons Library, UK, European Association for Secure Transactions (EAST)

However, with the effect of the covid-19 gradually expected to wane and easing of restrictions, CRISIL Research believes that ATM growth will return in several markets as demand for cash and drive for financial inclusion will push ATM deployments.

Indian ATM industry overview

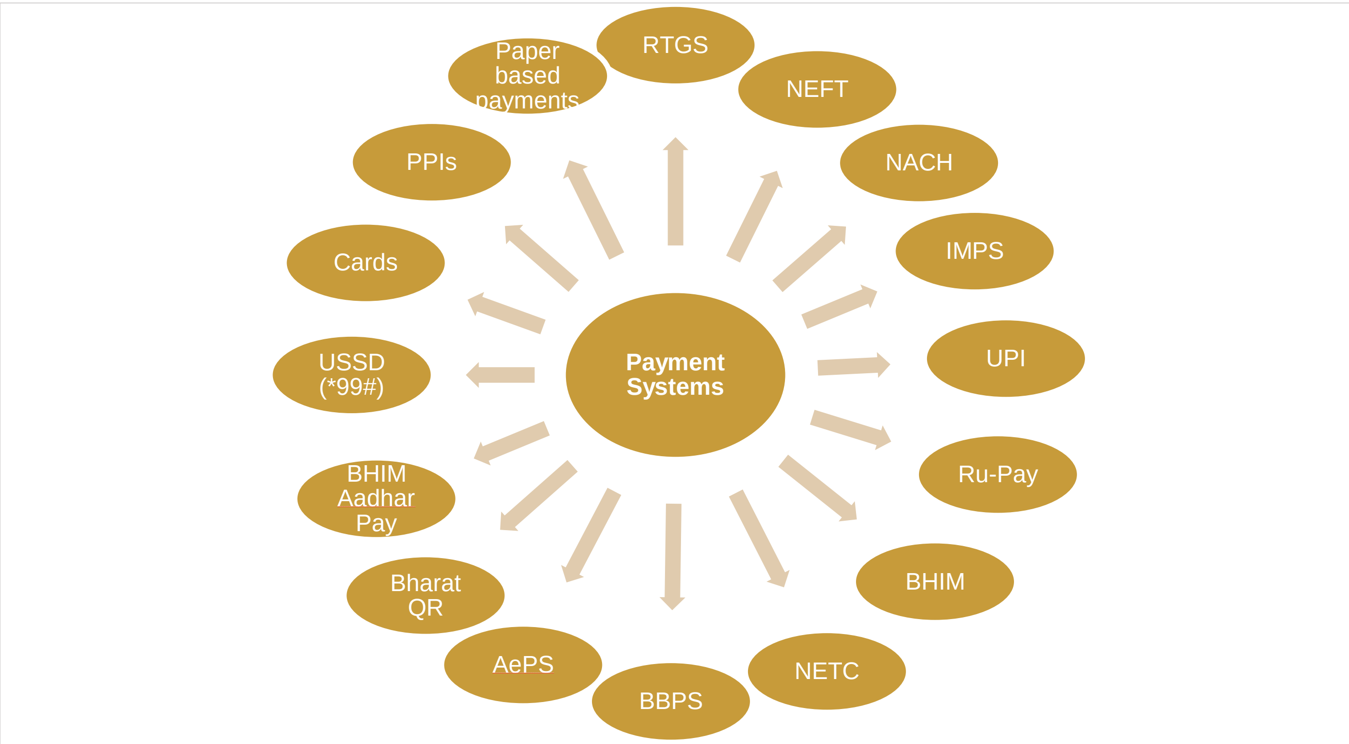
Indian payment industry overview

Indian payment industry has historically revolved around physical cash. In the last few years, we have seen high growth in digital payments as well. The growth has been driven by multiple factors like launch of new payment products, increasing smartphone penetration, increasing mobile internet users driven by lower data charges and a strong push from the government in order to increase adoption of digital channels.

The government has used levers such as ubiquitous availability of mobile broadband, increase in smart phone penetration and various incentives for the use of digital payment products to support the country's digital payments journey. In 2008, Reserve Bank of India (RBI) and Indian Bank's Association (IBA) established National Payments Corporation of India (NPCI) to create a robust payment and settlement infrastructure in India. Since, then numerous regulations and guidelines have been passed to facilitate and boost the growth of digital payments in India.

While digital payments have grown, cash remains a significant part of the economy, with cash in circulation growing consistently post the demonetisation of high-value currency notes in November 2016. Events such as the implementation of Goods and Services Tax and the onset of the Covid-19 as also the growing popularity of digital payments have also not impacted the growth in cash in circulation, suggesting that cash in circulation growth is more linked to the GDP growth, savings habits of customers, and customer behaviour. Globally also, we observe that cash in circulation as a proportion of nominal GDP has grown, even in the case of economies where digital payments have a high share in the payments pie.

Transaction Settlement mechanisms in India

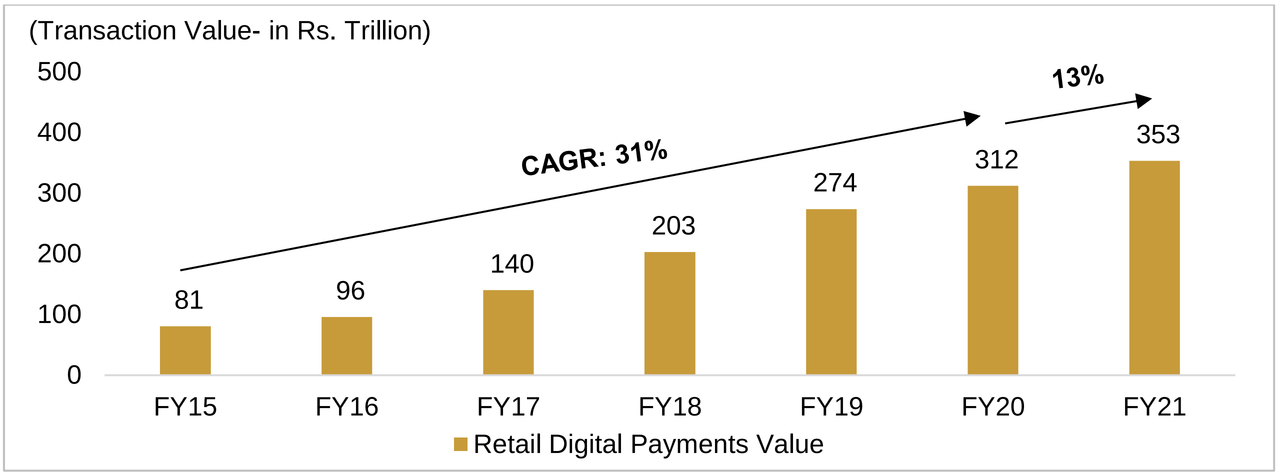


Note: RTGS – Real Time Gross Settlement, NEFT- National Electronic Fund Transfer, NACH – National Automated Clearing House, IMPS – Immediate Payment Service, UPI – Unified Payment Interface, BHIM – Bharat Interface for Money, NETC – National Electronic Toll Collection,

BBPS – Bharat Bill Pay Service, AePS – Aadhaar Enabled Payment System, USSD – Unstructured Supplementary Service Data, PPI – Prepaid Payment Instrument
Source: RBI – Payment & Settlement System in India, NPCI, CRISIL Research

In fiscal 2021, retail digital payment transaction value grew by 13% Rs. 353 trillion. In the last 6 years ending fiscal 2021, retail digital payments have grown rapidly at 31% CAGR. Going forward as well, the convenience of digital payments, ease of usage, and recipients also increasingly preferring digital payments would result in some sections of consumers continuing to prefer this medium.

Retail digital payment transactions trend



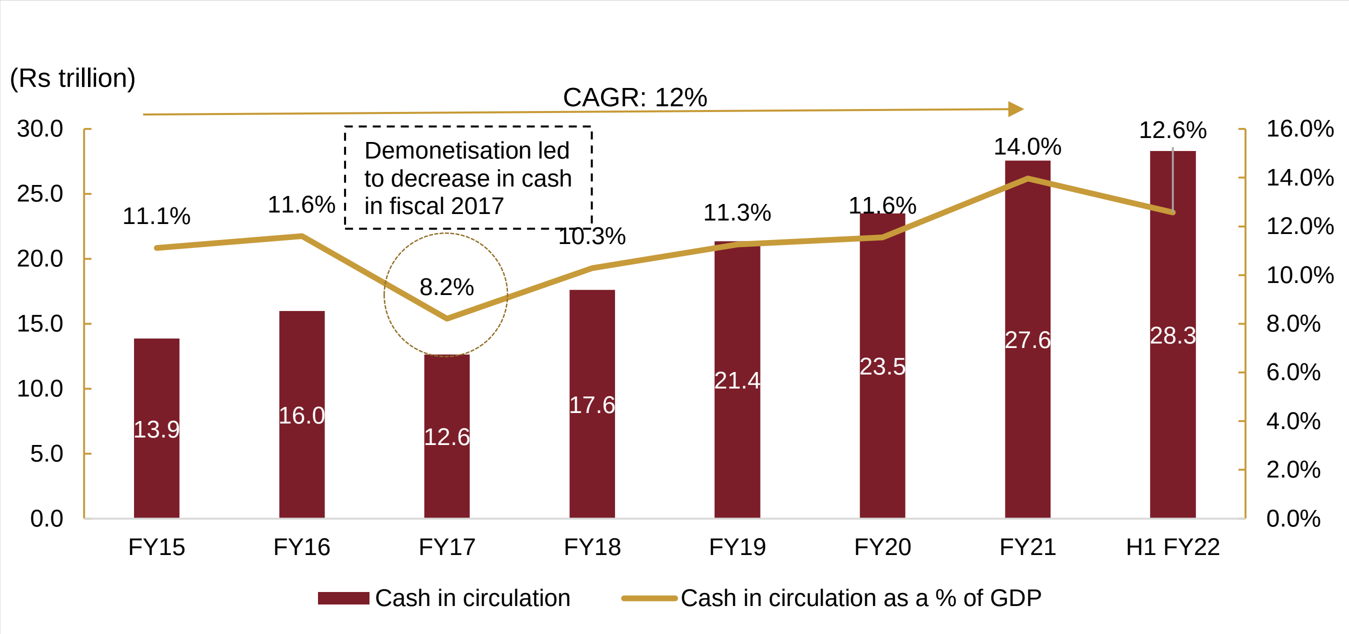
Note: Retail digital payments include all digital payments except RTGS and Paper Clearing
Source: RBI, CRISIL Research

Despite the stupendous growth in digital payment channels cash transactions still dominates the overall payments modes in India, As per RBI's annual report, cash in circulation has shot up to 14.7% of GDP in fiscal 2021 from 12.0% in fiscal 2020. According to an RBI publication *(Assessment of the progress of digitisation from cash to electronic dated February 2020)*, 70% of consumer transactions in India took place in cash as of 2018. While this percentage is likely to have reduced in the aftermath of Covid-19 and increased uptake of digital channels, cash is still expected to be the dominant payment mode. The lack of trust in technology, fear of being cheated, limited awareness, inadequate payment infrastructure and poor network connectivity along with fear of an increase in tax liability has created hindrance in peoples' mind to adopt digital payments, As a result, cash is still a preferred mode of payment in India, particularly in semi-urban and rural areas.

India is still a cash economy

Cash in circulation (CIC) doubled in last six years

Despite exponential growth in digital transaction through strong government focus and the creation of technology backbone and the shock induced by the demonetisation of high-value currency notes in November 2016, cash in circulation in India doubled from Rs 13.9 trillion at the end of fiscal 2015 to Rs 27.6 trillion at the end of fiscal 2021, indicating a predominant presence of cash and preference for usage of cash amongst various sections of the economy. In fact, in each of the years since fiscal 2017, cash in circulation has grown at a higher rate year-on-year compared to the nominal GDP growth indicating the significance of cash in the economy. Going forward as well, CRISIL Research believes that growth in cash in circulation will be broadly in line with the growth in nominal GDP.



Note: For H1FY22, estimated GDP for FY22 has been used to calculate cash in circulation as a % of GDP

Source: RBI, CRISIL Research

Steady increase in the number of ATMs deployed in the country

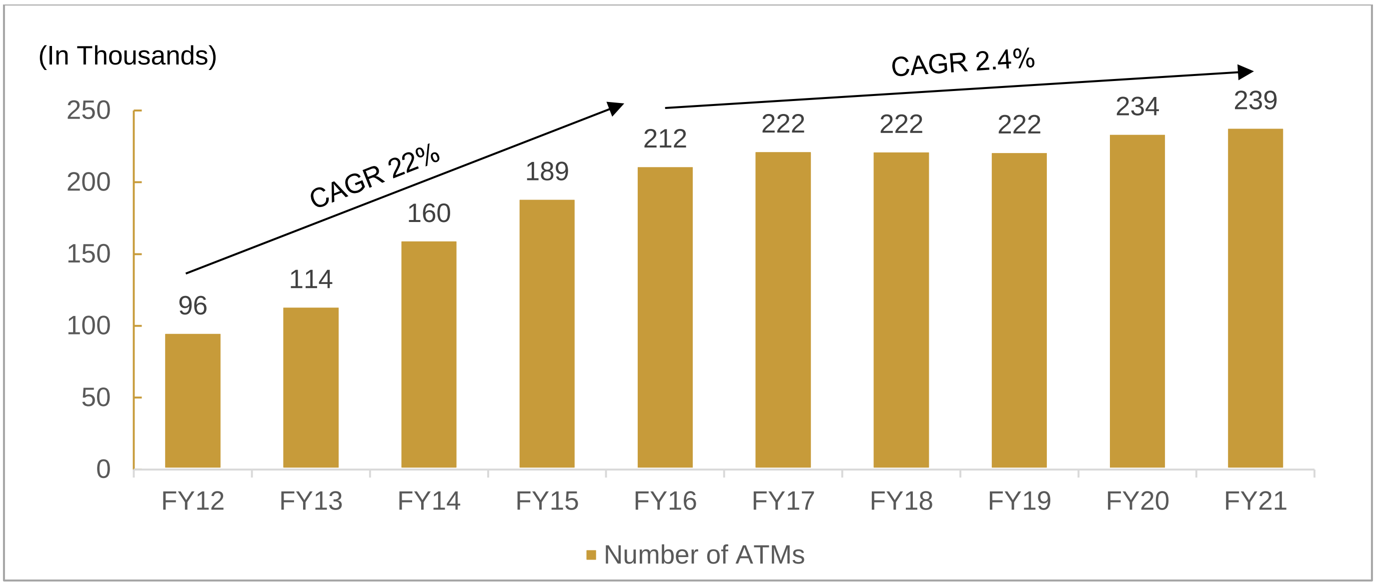
As of March 31, 2021, total number of ATMs deployed in country were 238,588 (excluding cash recyclers). After growing at an extremely strong pace during fiscal 2012 to fiscal 2016, the growth of installed ATMs has slowed down significantly and rise at a tepid 2.4% CAGR between fiscal 2016 to fiscal 2021.

This reduction in the pace of deployment of ATMs can be primarily attributed to the following reasons:

- Banks slowing down on incremental ATM deployments as just infrastructure alone is ceasing to be a source of competitive advantage. Further consolidation of PSBs has also led to this slow down.
- Given the interchange fee structure (the fee structure has been revised upwards from August 1, 2021), many banks have not found it feasible to run ATMs for non-bank customers; ATM Interchange fees are paid by customer's bank (issuing bank) to the bank/WLAO whose ATM is used by the customer (ATM acquiring bank/WLAO).
- Several WLAOs also found it difficult to manage the economics of the business, given the need for ATM transactions at a site needing to be about 90-100 transactions per day level for an ATM to be viable at the interchange fee allowed

As a result, many of scheduled banks and WLA operators have reduced the number of ATMs operated by them between fiscal 2018 to fiscal 2021.

Number of ATMs deployed in India

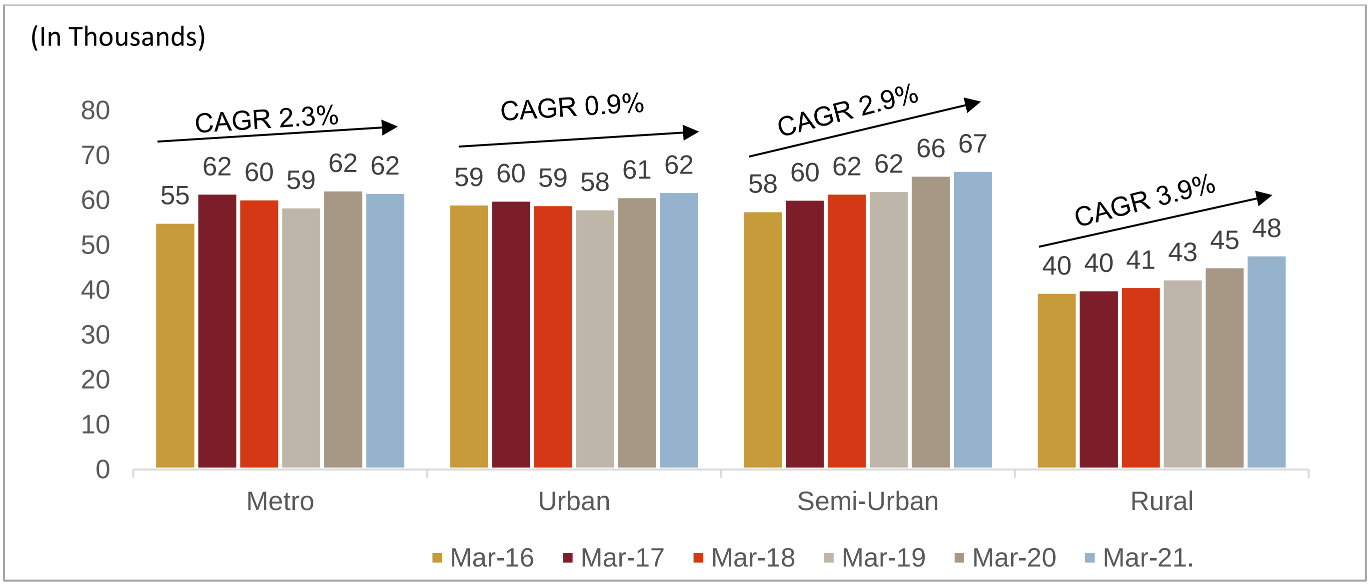


Note: ATM numbers do not include cash recyclers
Source: RBI, CRISIL Research

Growth in installed ATMs largely driven by SURU regions

In last 5 years ending fiscal 2021, growth in the number of installed ATMs has been largely driven by semi-urban and rural regions, where the number of installed ATMs have grown at a CAGR of 2.9% and 3.9%, respectively. In contrast, in the metro regions, installed ATMs have been stagnant from fiscal 2017 onwards.

Number of ATMs deployed in India (Region-wise)



Note: ATM numbers do not include cash recyclers

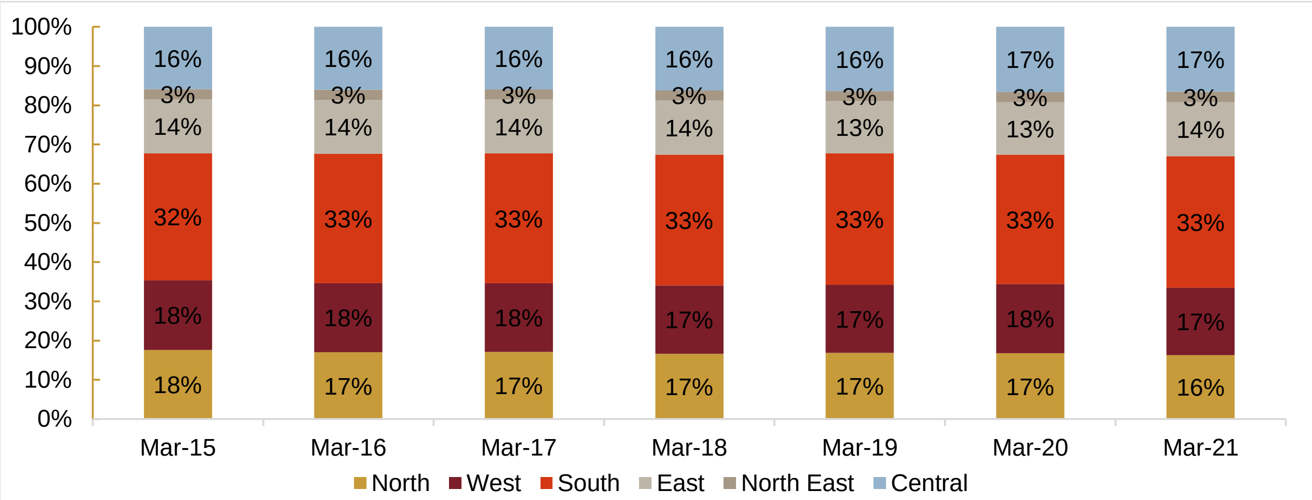
Source: RBI, CRISIL Research

South region accounts for 1/3rd of total ATMs deployed in country

Banking density is higher in south region as compare to rest of India. South India is also hub for various industries like IT, Automobile, Bancassurance, etc. So as in ATM deployment as well, South India leads the industry and holds almost double the number of ATMs as compared with other regions.

As per census 2011, Central and East region accounts for 25% and 22% of India's population respectively however only about 17% and 14% of ATMs in India are deployed in these regions respectively.

Region-wise ATM deployment in country (March 31, 2021)



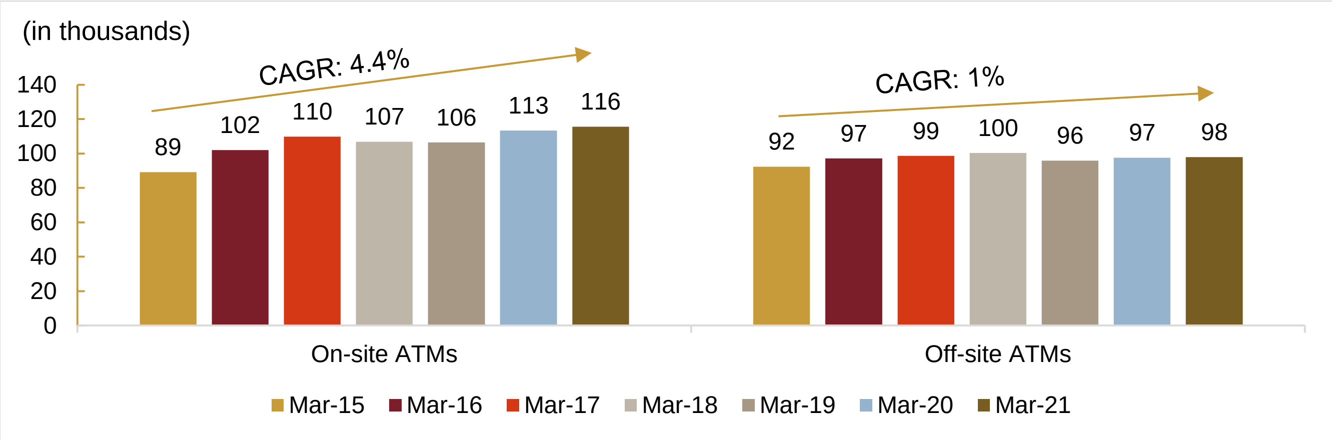
Note: 1. Population share is as on 2011.

2. *As per RBI classification, Southern region includes Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Telangana, Lakshadweep and Pondicherry, Central region includes Chhattisgarh, Madhya Pradesh, Uttarakhand and Uttar Pradesh, Northern region includes Chandigarh, Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Delhi and Ladakh, Eastern region includes Bihar, Jharkhand, Odisha, Sikkim, West Bengal and Andaman and Nicobar Islands, Western regions includes Goa, Gujarat, Maharashtra, Daman and Diu and Dadra and Nagar Haveli and North Eastern region includes, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura.*

Source: RBI, Census, CRISIL Research

Banks on site ATMs have grown by 4% between March 31, 2015 and March 31, 2021

Over last six years ending fiscal 2021, ATMs at bank branches have grown at a 4% CAGR compared to off-site ATMs which have grown at 1% CAGR. This indicates that banks are still focussed on deployed ATMs at their branches rather than other locations. This indicates the opportunity for other players in the industry like WLA operators the opportunity to build stronger network of ATMs at non-bank branch locations, especially in rural and semi-urban areas.



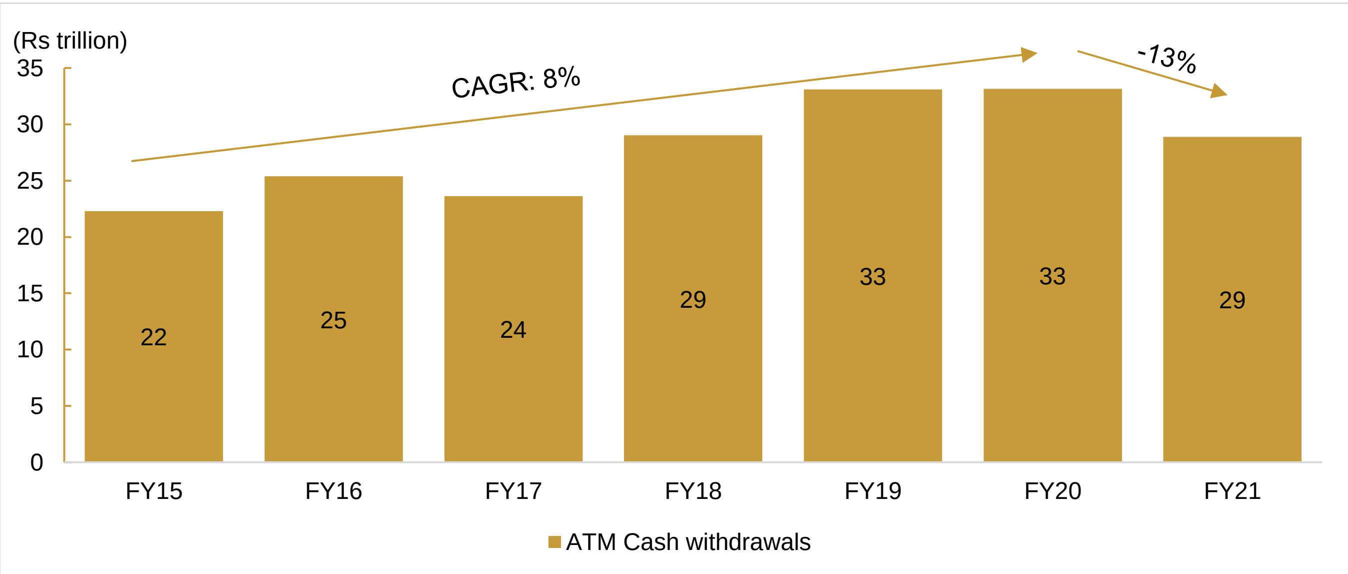
Note: ATM numbers do not include cash recyclers

Source: RBI, CRISIL Research

Cash withdrawals from ATMs have a growth at 8% CAGR over fiscal 2015 to fiscal 2020

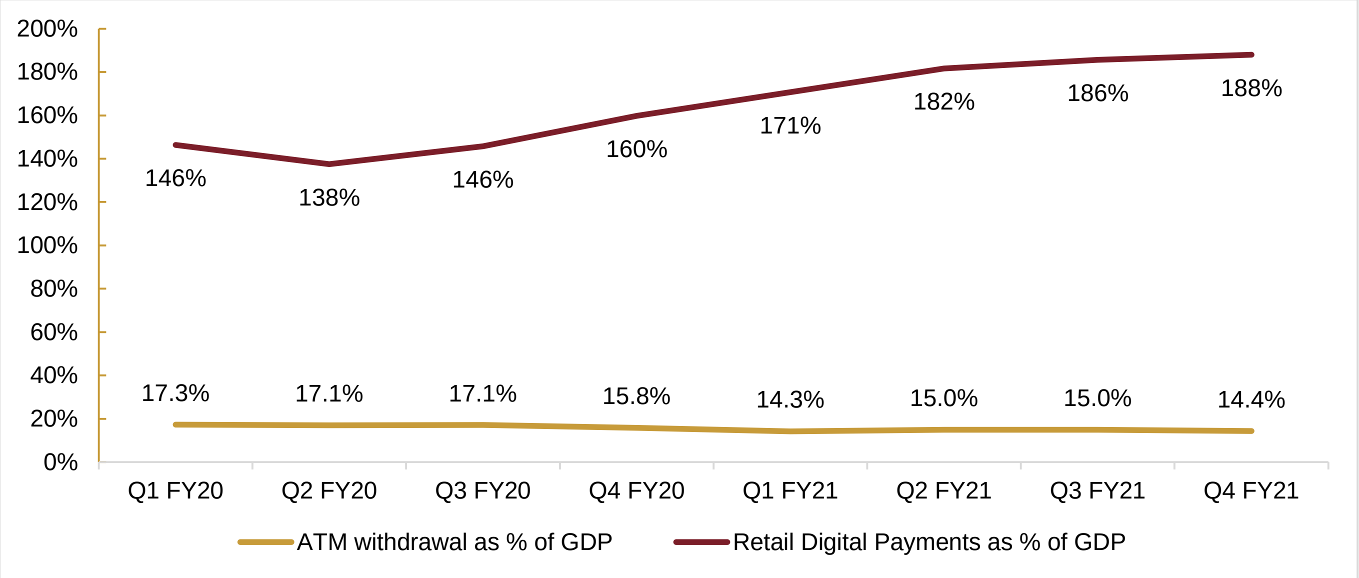
The concurrent rise in both digital payments and cash withdrawals indicates that while digital payments are increasingly becoming popular, cash also remains a significant mode of doing day-to-day transactions, especially in semi-urban and rural areas. The lack of trust in technology, limited awareness, inadequate payment infrastructure, and poor network connectivity in these areas has restricted digital transactions and discouraged people from using these payment modes. As a result, cash is still a preferred mode of payment in rural India due to comfort in transacting through cash. Furthermore, public preference has shifted to withdrawing cash on an as-needed basis instead of making large withdrawals and storing cash at home. Deposits with banks have also swelled over the last couple of years, which is reflected in the rise in currency in circulation.

ATM cash withdrawal trend



Source: RBI, CRISIL Research

ATM cash withdrawal and retail digital payments as a proportion of GDP



Source: RBI, MOSPI, CRISIL Research

Key Events impacting ATM industry in India

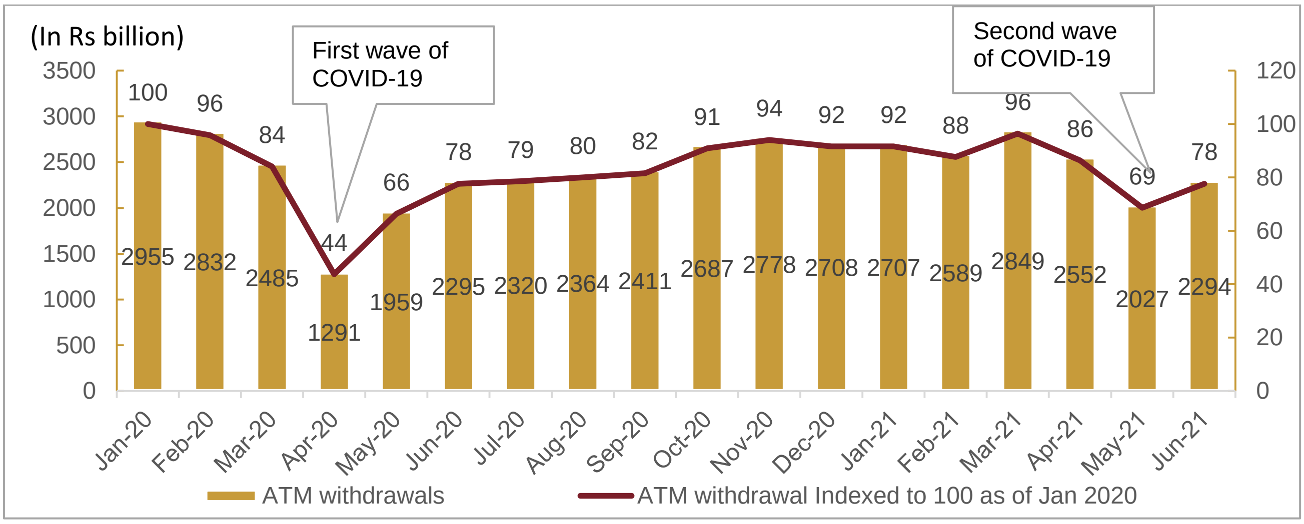
Impact of demonetisation wears off

The demonetisation of high-value currency notes of Rs. 500 and Rs. 1000 on November 8, 2016, had brought down the cash economy to a halt as around 86% of currency in value terms was in denominations of Rs. 500 and Rs. 1000. The move was aimed at curtailing the shadow economy and reducing the use of illicit and counterfeit cash. The economy went through a severe cash crunch due to restricted cash withdrawal per person and regulated circulation of new currency in the immediate aftermath of demonetisation, which led to the CIC as a proportion of GDP to come tumbling down to 8.2% as of March 31, 2017. Nevertheless, after demonetisation, the CIC proportion to GDP has increased sharply and eventually surpassed the pre-demonetisation levels.

COVID-19 could only work as small shock on ATM withdrawals

The pandemic restricted the movement of people and also pulled down economic growth. Not surprisingly, cash withdrawals from ATMs plummeted in during the first quarter of fiscal 2021 due to the nationwide lockdown. Subsequently, with the lockdowns being lifted, COVID-19 cases reducing and the revival of Indian economy, ATM withdrawals started picking up to touch the pre-Covid levels. In fact, during the second half of fiscal 2021, ATM withdrawals were more or less a ~90% of their levels as of January 2020. During the April-June 2021 quarter, cash withdrawals from ATMs again dipped due to the state-wide, localised lockdowns imposed during the second wave of Covid-19. With high-frequency economic indicators indicating a pick up in the economy since June 2021, we expect cash withdrawal levels to gradually pick up.

ATM withdrawals during COVID-19

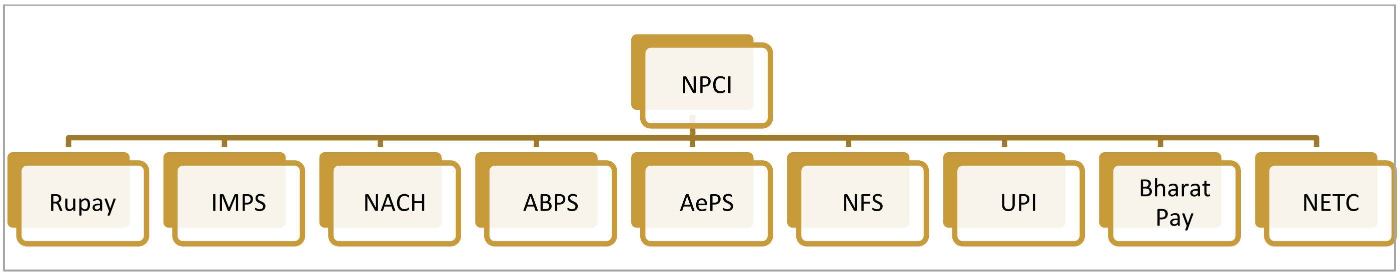


Source: RBI, CRISIL Research

NFS by NPCI has played an important role in developing the ATM industry in India

RBI has authorized various Payment System Operators (PSOs) such as NPCI, CCIL, ATM networks, TReDS platform providers, to name a few, to operate payment systems in India. NPCI incorporated as a “Not for Profit” Company with an intention to provide infrastructure to the entire banking system in India for physical as well as electronic payment and settlement systems. The institution is focused on bringing innovations in the retail payment systems through the use of technology for achieving greater efficiency in operations and widening the reach of payment systems. NPCI has brought in various innovative platforms to increase efficiency and convenience in retail payments and settlement.

Innovative Products brought in by NPCI



Source: NPCI, CRISIL Research

National Financial Switch (NFS)

National Financial Switch (NFS) is the largest network of shared Automated Teller Machines (ATMs) in India facilitating interoperable cash withdrawal, card to card funds transfer and interoperable cash deposit transactions among other value added services in the country. NFS has brought in various measures to improve the ATM industry network and efficiency in the country which as follows:

1. NFS has introduced sub-membership model which enables smaller, regional banks including RRBs and local co-operative banks to participate in the ATM network.

2. NFS has maintained high standards of application and network uptime of above 99.50% which has helped our member banks ensure enhanced customer experience.

3. The Dispute Management System (DMS), has benefitted members with high operational efficiency and ease of online transaction life cycle management (chargeback, presentment, etc.) in the network apart from being compliant with local regulatory requirements.

4. NPCI has also tied up with International card schemes like Discover Financial Service (DFS), Japan Credit Bureau (JCB) and China UnionPay International (CUPI) which allows their cardholders to use ATMs connected to NFS network.

5. The Fraud Risk Management (FRM) solution is offered as a value added service to monitor transactions (in real time) and to generate alert or decline the transaction in the NFS network

Apart from basic transactions like Cash Withdrawals, Balance Enquiry, PIN change and Mini Statement, NFS also offers other Value Added Services (VAS) at ATM sites such as:

1. Interoperable Cash Deposit (ICD)

2. Mobile Banking Registration (MBR)

3. Card-to-Card Fund Transfer (C2C)

4. Cheque Book Request (CBR)

5. Statement Request (SR)

6. Aadhar Number Seeding (ANS)

These measures have reduced the need for more branches and human intervention, resulting in overall reduction in cost. On the other hand, these measures have increased the importance of ATM network in the overall banking channel as also enhanced the range of services that can be provided at an ATM. However, due to limited awareness and know-how to use value added services, such transactions at ATMs are only expected to gain traction in the medium-term.

Key regulations in the Indian ATM industry

The Indian ATM industry is highly regulated by the Reserve Bank of India. The focus of the RBI has always been on enhancing financial inclusion and expanding the reach of banking services across the population strata and the length and breadth of the country. In order to achieve the same, RBI over the years has taken steps and released guidelines for the ATM industry in India. Major regulations over the past few years are listed below:

May 2016: Security and risk mitigation measures for ATM transactions

- In a move to improve security and mitigate risk, RBI advised the banks in India and the White Label ATM operators to ensure that all the existing ATMs installed/operated by them were enabled for processing of EMV Chip and PIN cards by September 30, 2017. Also, all new ATMs deployed should necessarily be enabled for EMV Chip and PIN processing from inception.
- Further, in order to ensure uniformity in card payments ecosystem, banks were to also implement the above requirements at their micro-ATMs which are enabled to handle card-based payments.

November 2016: Waiver of customer charges on ATM transactions

- After demonetisation was announced, RBI decided that banks should waive levy of ATM charges for all transactions (inclusive of both financial and non-financial transactions) by savings bank customers done at their own banks' ATMs as well as at other banks' ATMs, irrespective of the number of transactions during the month.
- This waiver was applicable on transactions done at ATMs from November 10, 2016 till December 30, 2016, subject to review.

April 2018: Cassete swaps in ATMs

- In order to mitigate risks involved in open cash replenishment/ top-up, RBI advised that banks may consider using lockable cassettes in their ATMs which shall be swapped at the time of cash replenishment.
- The above may be implemented in a phased manner covering at least one third ATMs operated by the banks every year, such that all ATMs achieve cassette swap by March 31, 2021.

June 2018: Control measures for the ATMs

- In order to enhance security and proper operations of ATMs, RBI mandated the banks and WLAOs to implement control measures including implementation of security measures such as BIOS password, disabling USB ports, disabling auto-run facility, applying the latest patches of operating system and other softwares, terminal security solution, time-based admin access, etc., implementation of anti-skimming and whitelisting solution and upgrading all the ATMs with supported versions of operating system.

March 2019: Guidelines reviewed for WLAOs considering viability of operations

- RBI allowed the WLA operators to source cash directly from RBI chests accross the country.
- In addition, it also allowed the WLA operators to offer bill payments and Interoperable Cash Deposit services to diversify revenue sources and improve profitability

June 2021: Review of interchange fee and customer charges

- RBI allowed an increase in interchange fee per transaction from Rs 15 to Rs 17 for financial transactions and from Rs 5 to Rs 6 for non-financial transactions in all centres. This is effective from August 1, 2021.
- To compensate the banks for the higher interchange fee and given the general escalation in costs, they are allowed to increase the customer charges to Rs 21 per transaction from Rs 20 per transaction. This increase shall be effective from January 1, 2022.

August 2021: Monitoring of Availability of Cash in ATMs

- To ensure that sufficient cash is available to public through ATMs, the RBI has decided that the banks/ White Label ATM Operators (WLAOs) shall strengthen their systems/ mechanisms to monitor availability of cash in ATMs and ensure timely replenishment to avoid cash-outs.
- Any non-compliance in this regard shall be viewed seriously and shall attract monetary penalty as stipulated in the "Scheme of Penalty for non-replenishment of ATMs". The Scheme shall be effective from October 01, 2021.

Source: RBI, CRISIL Research

In recent years, RBI has announced lot of measures towards increasing security and optimum operations of ATMs. This has led to increase in costs for players in the ATM industry. In 2019, RBI constituted a Committee to Review the ATM Interchange Fee Structure. The Committee deliberated all the issues around the cost of operating ATMs, cost implications of regulatory guidelines for enhancing ATM security and control measures, changes required in cash management and logistics, interchange fees, ATM usage charges, etc. Accordingly, taking into account the cost of operating ATMs and the likely increase due to regulatory directives, the Committee recommended an increase in the interchange fee. The fee structure recommended and the fees eventually announced by RBI have been detailed in the subsequent section.

Players	Monthly average cost of operating ATMs	Increase in cost
Public Sector Banks (other than SBI)	Rs 83,700-95,000	10-15%
SBI	Rs 65,850-88,850	15-20%
Private sector Banks	Rs 106,700	19%
WLAOs	Rs 60,850	NA
BLAOs	Rs 70,565	19%

Note: For WLAOs, the monthly average cost of operating ATMs includes the cost of compliance in respect of the RBI regulations pertaining to security and control measures

Source: RBI Committee report to review the ATM interchange fee structure, CRISIL Research

In August 2021, RBI introduced the levy of penalty for non-replenishment of cash in a timely manner at ATMs. The RBI stated that cash-out (or non-availability of cash) for more than ten hours at any ATM in a month will attract a flat penalty of ₹ 10,000 per ATM. The scheme, which is aimed at ensuring availability of sufficient cash for the public through ATMs, came into effect from October 1, 2021. The objective behind imposing a penalty on outages in ATMs was to ensure that cash is available in all ATMs, especially in rural and semi urban areas, all the time.

The Confederation of ATM Industry (CATMI), which represents white labelled operators and managed service providers, has raised concerns over this move, citing the limited number of cash replenishment agencies in the country and power outages impacting the loading of cash in ATMs in SURU regions and has accordingly raised the issue with the RBI. Further, CATMI has stated that the move may lead to slower deployment of ATMs as such a penalty will impact the profit margins of ATM deployers and operators directly. However, we expect the issue to be resolved by RBI and the impact will only be for short-term.

Hike in Interchange fees will increase the ATM deployments in country

From fiscal 2016 onwards, new ATM deployments have been more or less stagnant due to no revisions taking place in the ATM interchange fees since 2012, customer charges since 2014 and the increasing cost of operating ATMs.

The RBI, in June 2021, announced an upward revision in ATM interchange fee and customer charges considering the increasing cost of ATM deployment and expenses towards ATM maintenance incurred by banks and white label ATM operators as well as balancing expectations of stakeholder entities and customer convenience. The ATM interchange fee per transaction was increased from Rs 15 to Rs 17 for financial transactions and from Rs 5 to Rs 6 for non-financial transactions across all centres (metros, urban, semi-urban and rural) with effect from August 1, 2021. To compensate the banks for the higher interchange fee and given the general escalation in costs, the customer charges towards ATM transactions have also been increased from Rs 20 to Rs 21 per transaction. This increase shall be effective from January 1, 2022.

This move came after the recommendation of the Committee constituted in July 2019 to review the entire gamut of ATM charges and fees with particular focus on interchange structure for ATM transactions

Type of Transactions	Old interchange fee	Fee recommended by RBI Committee		Fee announced by RBI (applicable from August 1, 2021)
		For centers with populations with 1 million and above	For centers with populations less than 1 million	
Financial	Rs 15/-	Rs 17/-	Rs 18/-	Rs 17/-
Non-Financial	Rs 5/-	Rs 7/-	Rs 8/-	Rs 6/-
All charges are excluding taxes				

Source: RBI Committee Report dated October 2019, CRISIL Research

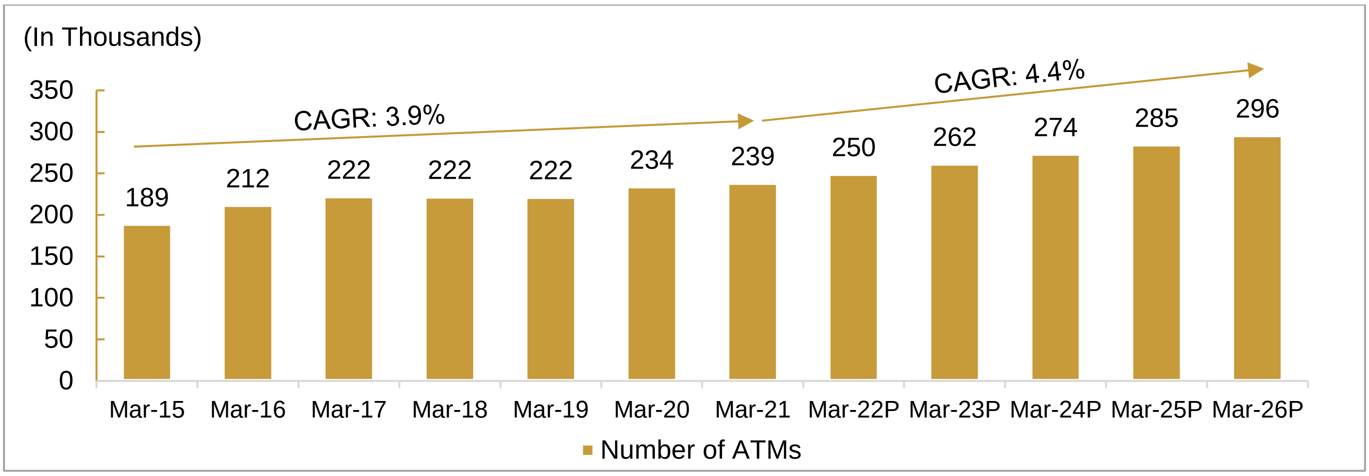
ATM industry additions to accelerate, driven by structural growth drivers and the hike in interchange fee

The hike in interchange fees is expected to give a fresh lease of life to the ATM industry, as it meaningfully changes the economics of ATM operators and improves profitability, even at the same level of transactions. This move, along with various structural growth drivers – increased spending by consumers on retail purchases, low ATM penetration compared to other countries, rise in the number of debit cards issued, higher flows through Direct Benefit Transfer (DBT) leading to rise in demand for outlets for withdrawals, and higher demand for ATMs for cash withdrawal in SURU regions – is expected to increase the incentive for industry players to add ATMs deployed.

CRISIL Research projects the number of ATMs installed in India to touch ~2,96,000 by March 31, 2026, translating into net addition of ~57,000 deployments over a 5-year period ending fiscal 2026. In comparison, around 27,000 ATMs were added in the previous 5-year period ending fiscal 2021. Most of these deployments are expected to take place in semi-urban and rural areas, with these regions expected to see ~17,000 and ~27,000 ATMs, respectively, being added on a net basis during fiscal 2021 to fiscal 2026.

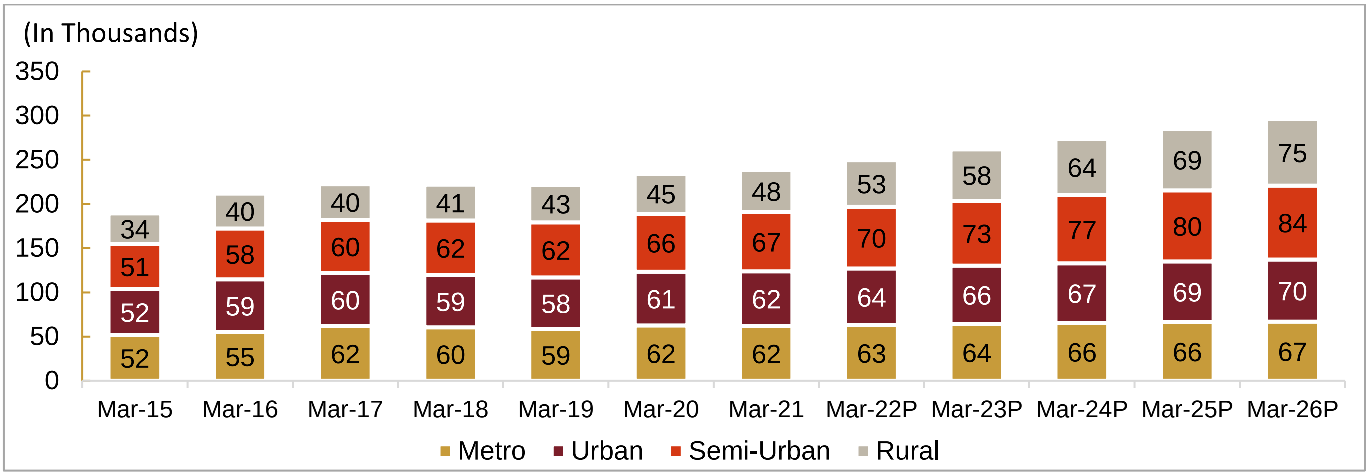
In the near-term though, the levy of penalty for non-availability of cash at ATMs, imposed by the RBI with effect from October 1, 2021, is likely to have a sobering impact on incremental ATM deployments. In our projections, we have assumed that the issue will be sorted out over the medium-term, given the low ATM penetration in the country and the need for ATMs for withdrawal of cash for day-to-day transactions as well as distribution of subsidies and benefits, especially in SURU regions.

ATMs deployed in India to grow at 4.4% CAGR between March 31, 2021 and March 31, 2026



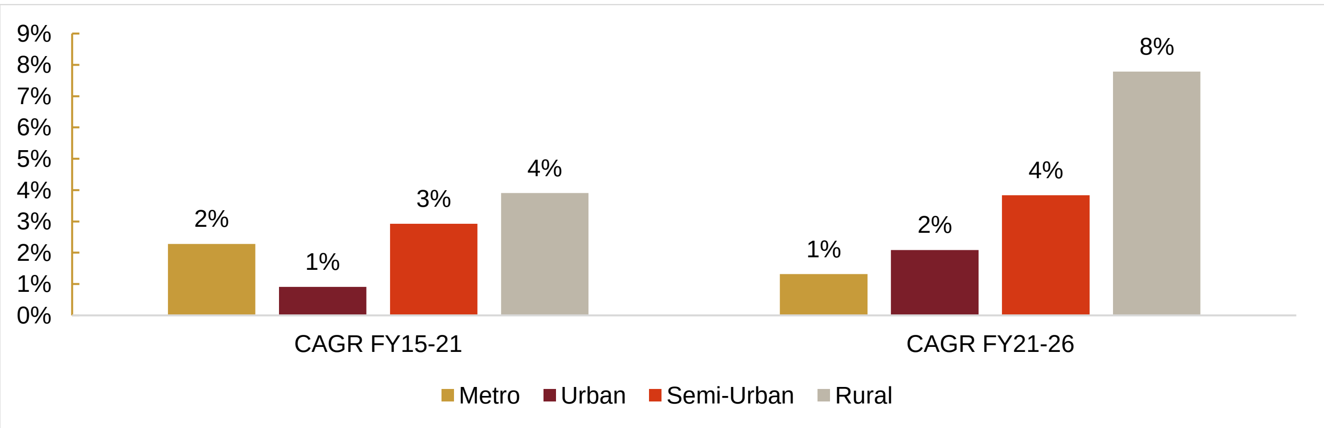
Note: ATM numbers do not include cash recyclers, P: Projected
Source: RBI, CRISIL Research

ATMs in SURU regions to capture market share between March 31, 2021 and March 31, 2026



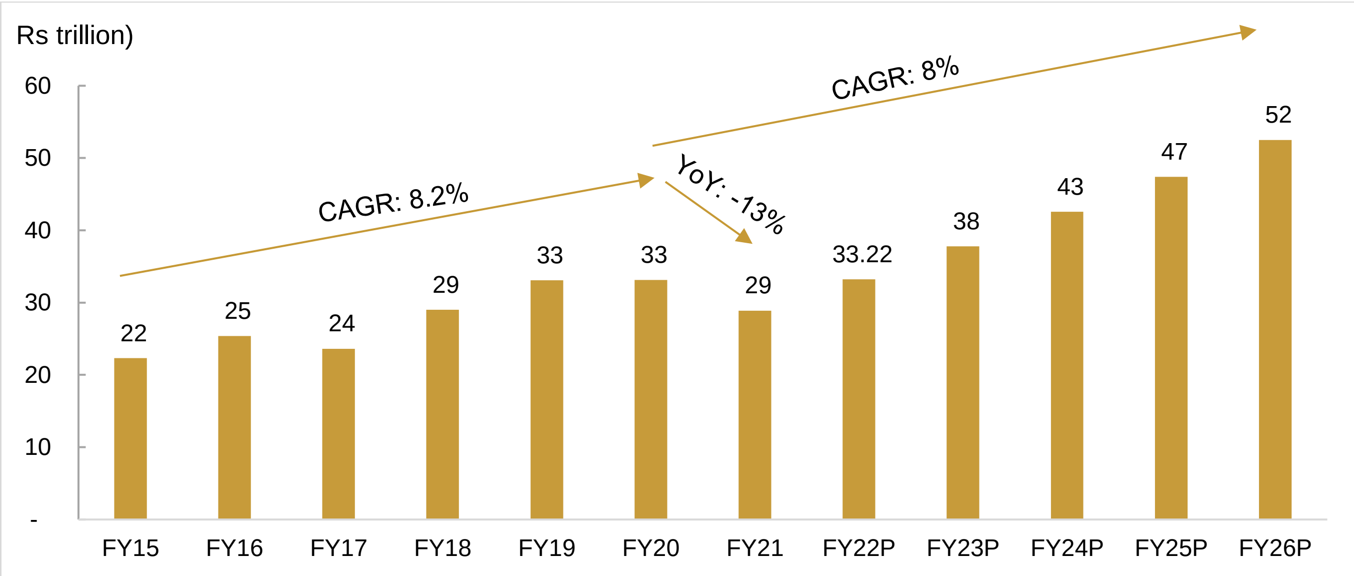
Note: ATM numbers do not include cash recyclers, P: Projected
Source: RBI, CRISIL Research

ATMs in SURU regions to grow at highest CAGR between March 31, 2021 and March 31, 2026



Along with the grown in ATMs deployed in the country, as ATM penetration increases in the under-banked and SURU regions, cash withdrawal transactions are also expected to grow.

Cash withdrawal transactions to grow at 8% CAGR over FY20 and FY26



Note: P-Projected

Source: RBI, CRISIL Research

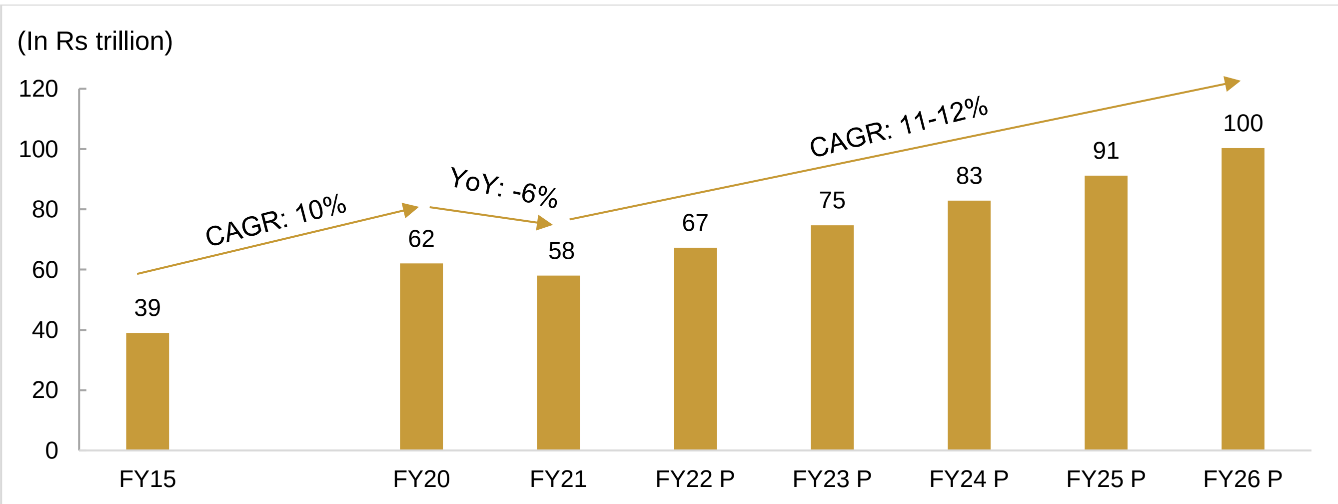
Key growth drivers of ATM industry in India

Increased retail spending by consumers to drive growth

Majority of the retail industry is still captured by the unorganized segment (estimated to be 88%) and most of the retail spending in rural and semi-urban areas happens through unorganized retail stores. CRISIL Research estimates that about 85-90% of the transactions (in value terms) at a pan-India level currently take place through cash mode in the unorganized retail segment. In small unorganized stores located in semi-urban and rural areas, the proportion of cash payments are estimated to be much higher than this nation-wide average.

Overall retail spends on goods are expected to witness 15-17% growth in fiscal 2022 on account of a low base, full year of store operations, higher discretionary spending and waning impact of the pandemic. In the long run, we project the overall retail sector in India to grow at a CAGR of 11-12% during FY21-26.

Overall retail market to grow at 11-12% CAGR over fiscal 2021 to fiscal 2026



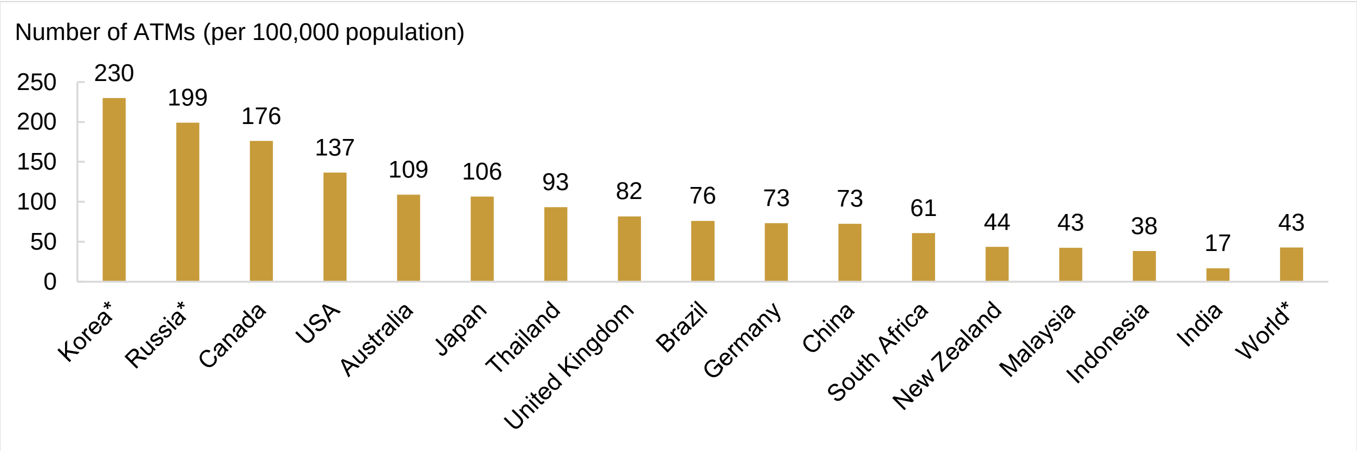
Note: E: Estimated, P-Projected

Source: CRISIL Research

Lower penetration of ATM terminals in India will drive future growth

ATMs are less common in India as compared to countries such as United Kingdom, Russia, United States and Canada which have highest number of ATM terminals deployed per 100,000 people. Among the major economies, India has the lowest penetration of ATM terminals in the country which is expected to increase with higher financial penetration and access to banking services

Number of ATM terminals (per 100,000 population) (2020)

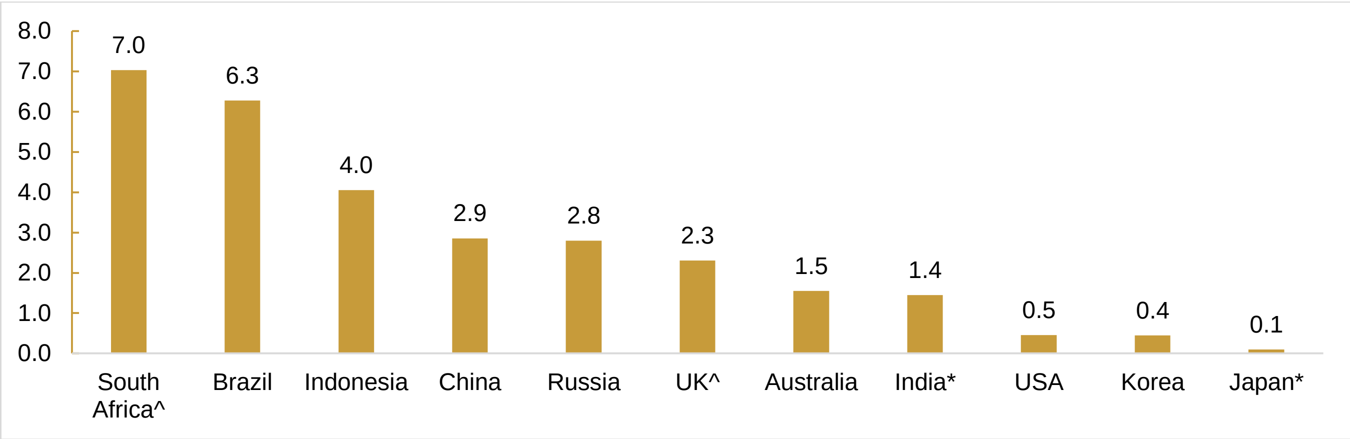


*Note: * Data for 2019*

Source: Company Reports, IMF, World Bank, BIS, RBI, House of Commons Library, UK, European Association for Secure Transactions (EAST), CRISIL Research

Among the major economies, India has the lowest penetration of ATM terminals in the country. Moreover, the value of ATM transactions in proportion to cash in circulation in the country is also among the lowest. Low number of ATMs in relation to population and ATM transaction penetration in India points out to significant potential for growth of ATM industry in India, especially in semi urban and rural regions of the country where accessiblity of banking services is still relatively low. This will also lead to better financial inclusion and improvement in accessability of banking services in the underpenetrated regions of the country.

ATM withdrawals to CIC Ratio

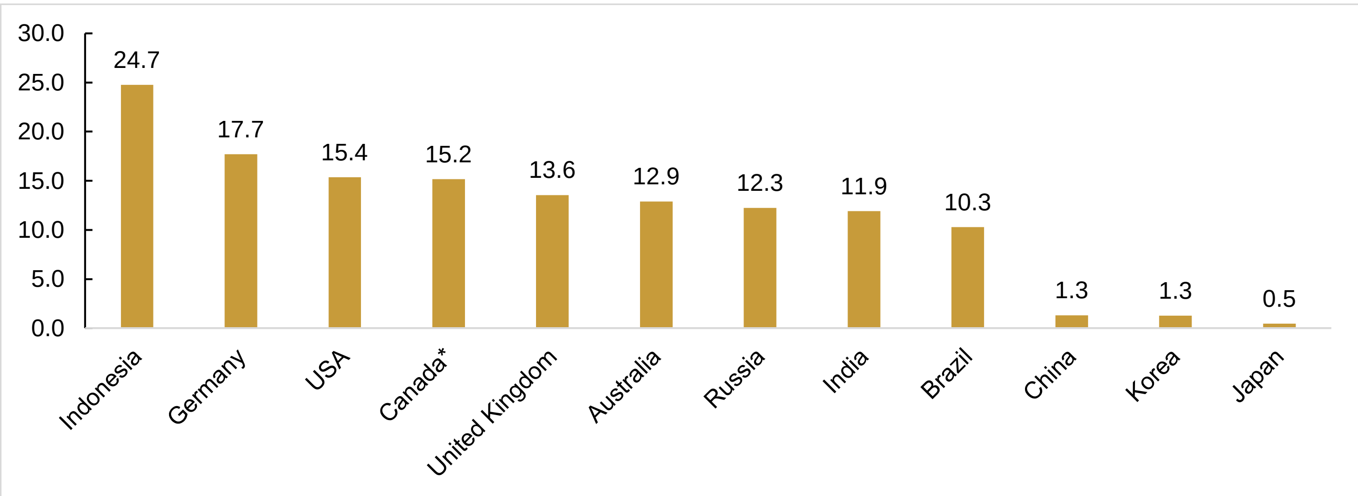


Note: (*) Data as of end of March 2020 is used for CIC and data for 2019 is used for ATM withdrawals, (^) Data as of end of February of next calendar year is used for CIC data for 2019 is used for ATM withdrawals

Source: Bank of International Settlements, CRISIL Research

Number of cash withdrawals transactions per debit card in India also lags compared to many major economies, indicating lower transaction volume in the country. In calendar year 2019, compared to countries like Indonesia, Germany, USA, Canada, number of cash withdrawal transactions per debit card was still relatively lower in India.

ATM cash withdrawal transactions per debit card (2019)

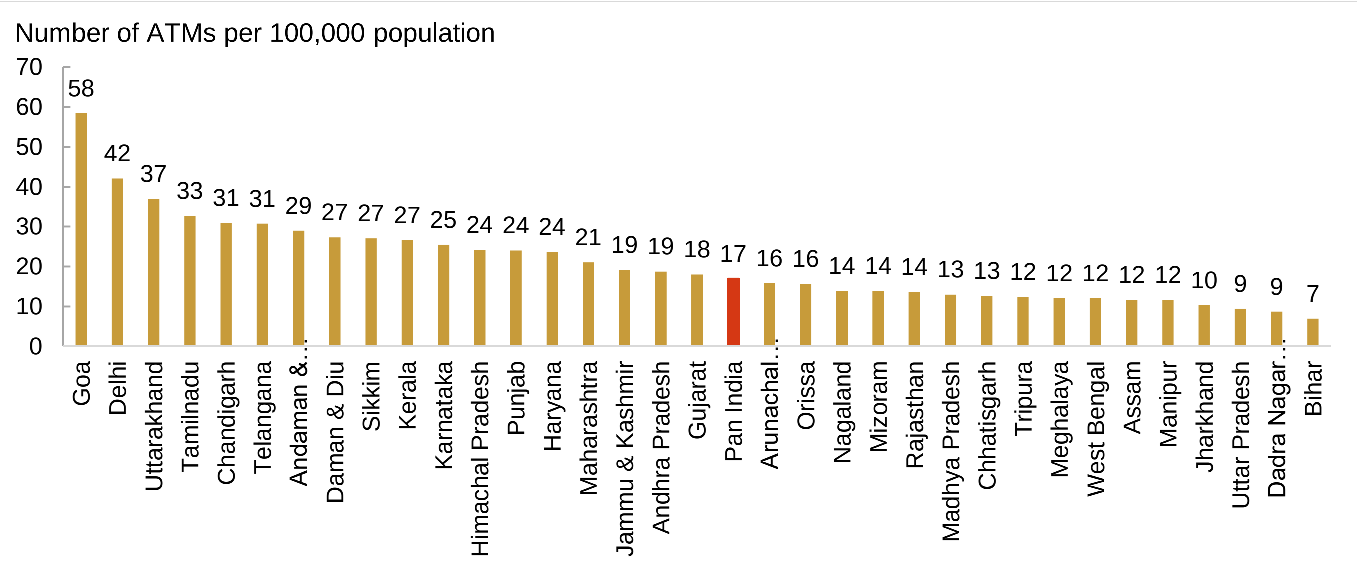


Note: (*) Data as of calendar year 2017

Source: Bank of International Settlements, CRISIL Research

In India, even in large states like Maharashtra, Karnataka, Tamil Nadu, Telangana and Andhra Pradesh with relatively higher penetration compared to the pan-India average, the average number of ATMs per lakh people is lower as compared to other countries.

ATM penetration in various states in India (as of March 31, 2021)

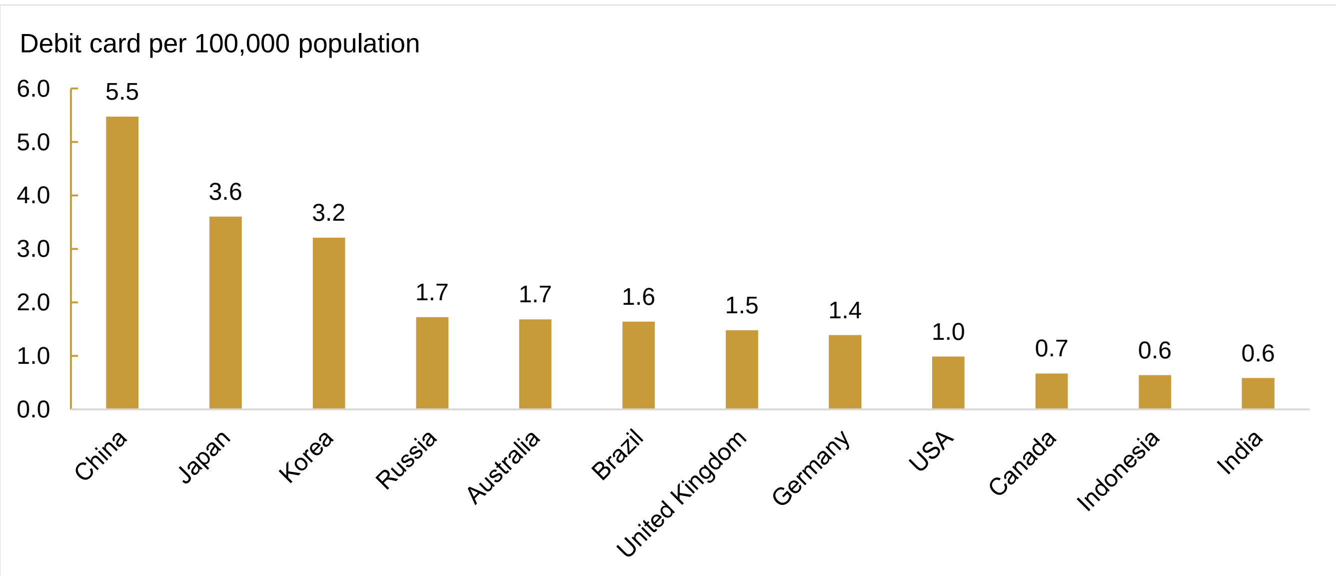


Source: RBI, Census 2011, CRISIL Research estimates

Number of outstanding debit cards is increasing

In India, compared to other countries, debit card penetration is quite low. While China, Japan and Korea have the highest debit card penetration among all major economies, India and Indonesia have the lowest debit card penetration. This indicates high potential for such countries to increase number and reach of debit cardsin the country.

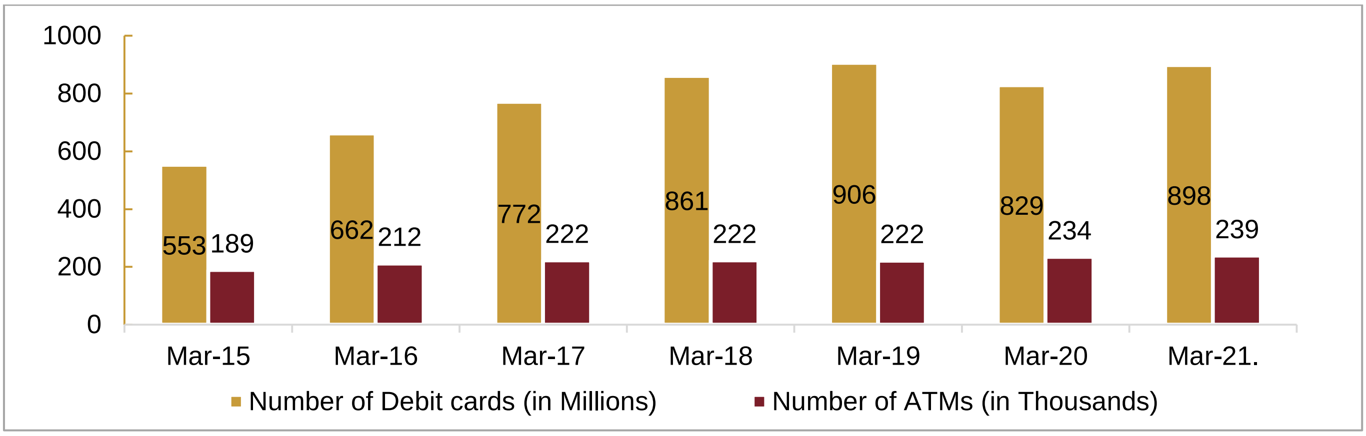
Debit card penetration in major economies (2019)



Source: Bank of International Settlements, CRISIL Research

According to RBI, Number of debit cards continued to increase till March 31, 2019, as banks continued to issue new cards. As a result overall number of cards outstanding grew at CAGR of 13% between fiscal 2015 to fiscal 2019, whereas total number of ATMs grew at 4% CAGR during the same period. In fiscal 2020, the RBI directive leading to migration of debit cards from magnetic strip to chip-based cards led to reduction in number of debit cards as banks reissued cards as per the new directive and inactive cards were weeded out. Subsequently, in fiscal 2021, the number of oustanding debit cards again increased and reached the fiscal 2019 levels. The increasing number of debit cards is also leading to increase in demand for ATMs. Going forward as well, growth in the quantum of outstanding debit cards will support the increase in ATM deployments in the country.

Number of outstanding debit cards in India



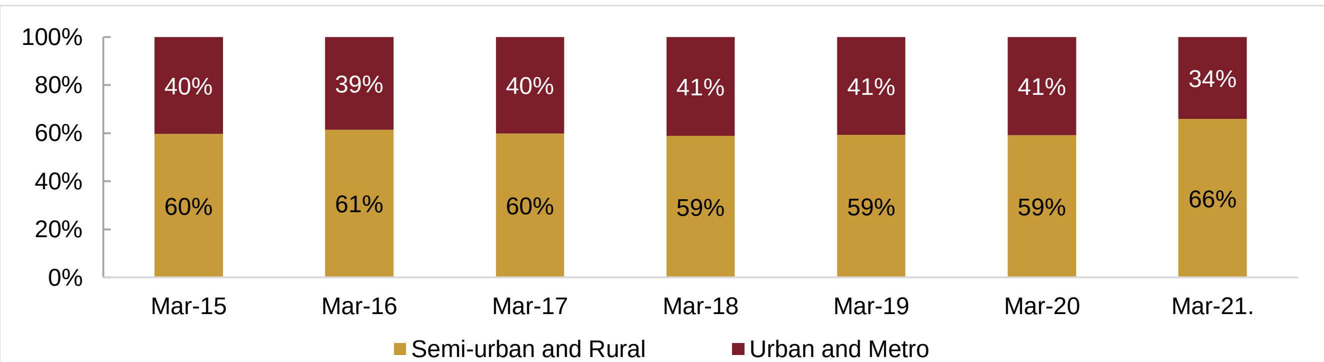
Note: ATM numbers do not include cash recyclers

Source: RBI, CRISIL Research

Almost two-thirds of Ru-pay cards issued are in rural areas

The demand, in part, for ATM services in the SURU regions is driven by the Government of India's policies and focus on financial inclusion. Ru-pay cards gained lot of traction through PMJDY launched by the Government of India. As of March 31, 2021, 603.6 million Ru-pay cards were issued, of which around 50% (309 million cards) were issued through PMJDY accounts. The majority of these accounts are based from SURU regions. The growth in Ru-pay debit cards along with PMJDY accounts brings the unserved banking customers to main stream; as a result, ATMs footfall is expected to increase in remote areas of country.

Population group-wise Ru-pay card issued

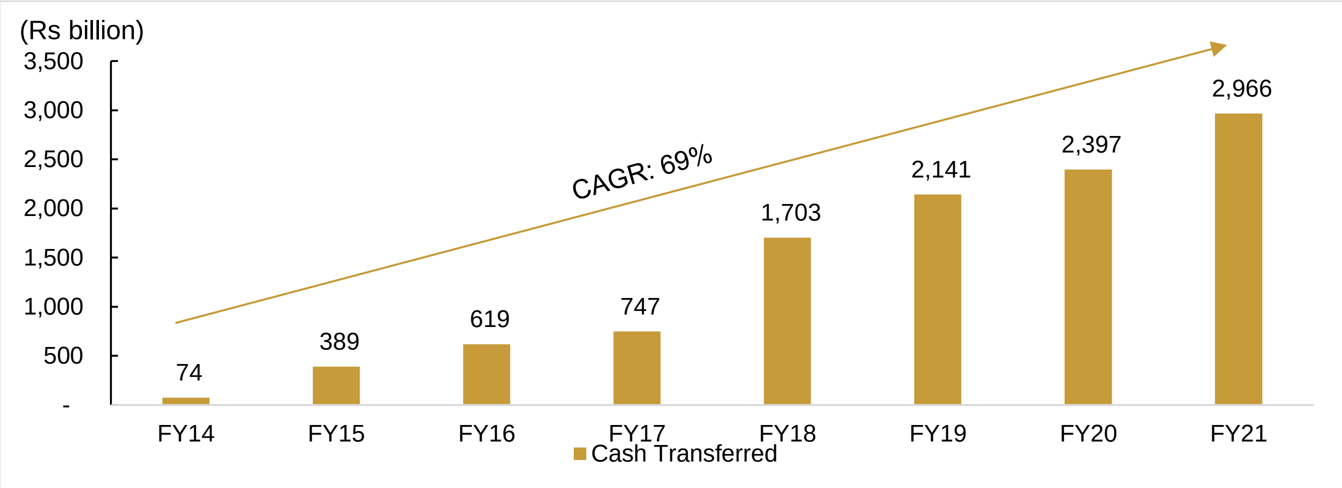


Source: RBI, CRISIL Research Estimate

Direct benefit transfer (DBT) will drive demand for ATMs for cash withdrawals

As of end of fiscal 2014, only 28 schemes were covered under the direct-benefit transfer ("DBT"), where the payment is directly done into the bank account of the beneficiary. This has grown to 318 schemes as of the end of fiscal 2021 Benefit transfer in form of cash through the DBT mechanism has increased from approximately Rs. 2,141 billion in fiscal 2019 to Rs. 2,397 billion in fiscal 2020 to Rs 2,966 billion in fiscal 2021 and these inflows are driving demand for cash in SURU regions and in tier-5 and tier-6 towns and villages where these beneficiaries reside. CRISIL Research expects the flow of funds into the bank accounts of beneficiaries through DBT will support growth in footfall of ATMs in SURU regions.

Amount transferred to beneficiaries through DBT

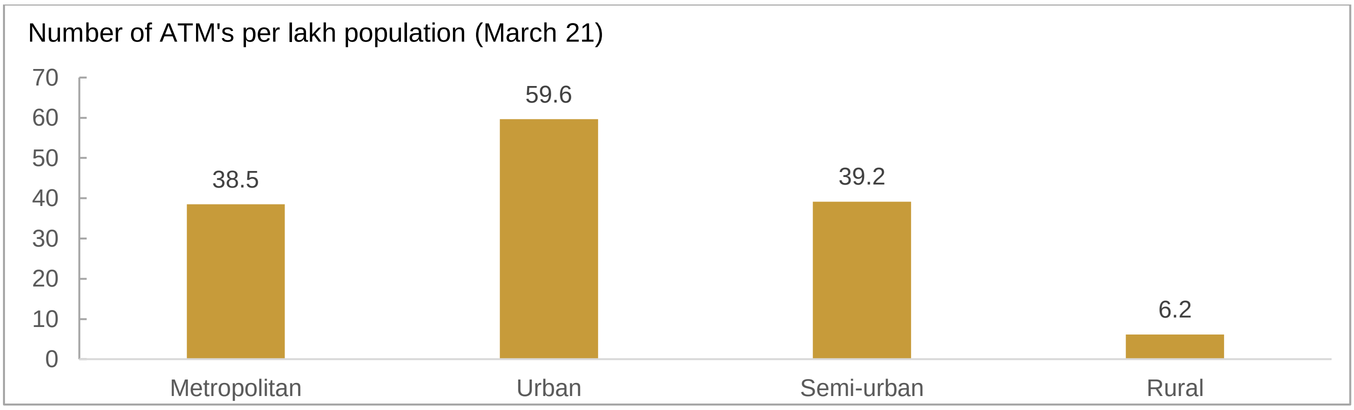


Source: DBT website; CRISIL Research

Lower ATM penetration in SURU regions represents a significant growth opportunity

CRISIL estimates that around 865 million people live in rural areas as of March 2021, wherein bank branch penetration is too low, indicating huge room for financial inclusion and banking services penetration. As of March 31, 2021, rural India has 6.2 ATMs per lakh population which is much lower than in the urban areas. It is estimated that only one in ten villages have reasonable access to a ATM. CRISIL Research estimates that as of March 31, 2021, the SURU regions accounted for 75% of India's population but only 48% of ATMs were deployed there. Hence, SURU regions represent a significant growth opportunity in the ATM sector as these areas are deeply underbanked with low ATM penetration.

ATM penetration across India

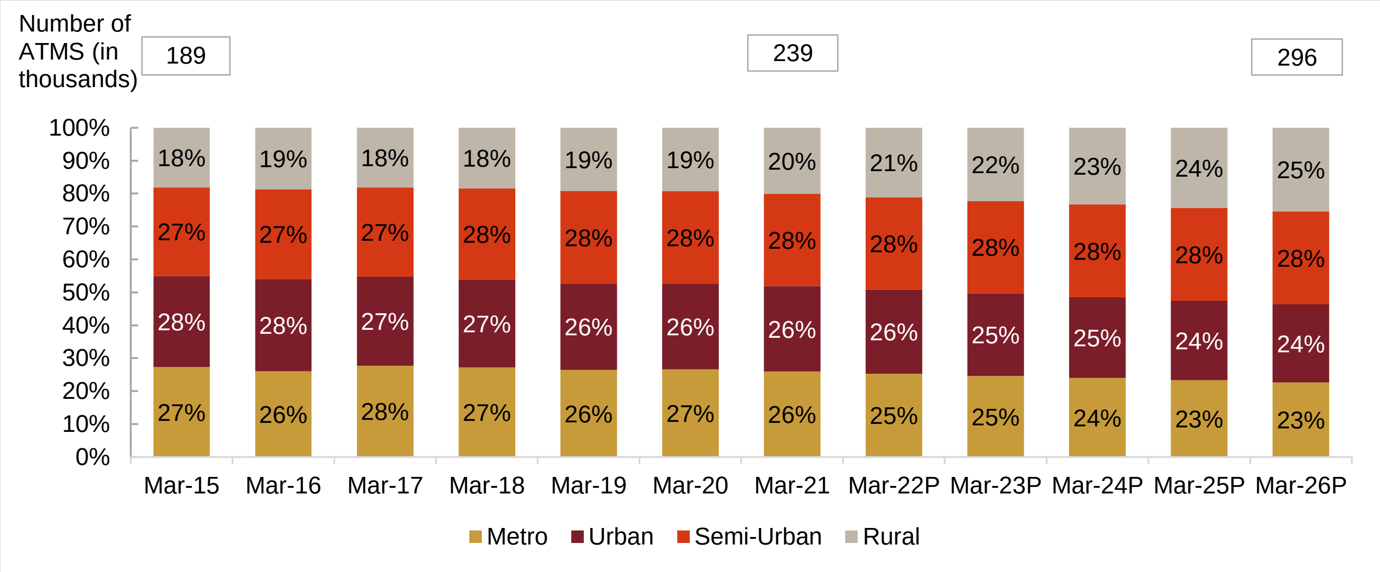


Note: Population classification is as per census 2011

Source: RBI, Census, CRISIL Research

In terms of number of ATM terminals in India, share of ATMs in the metros and urban areas is gradually declining as penetration of basic banking services increase in rural and semi-urban areas which are quite under-penetrated.

ATMs share in SURU region



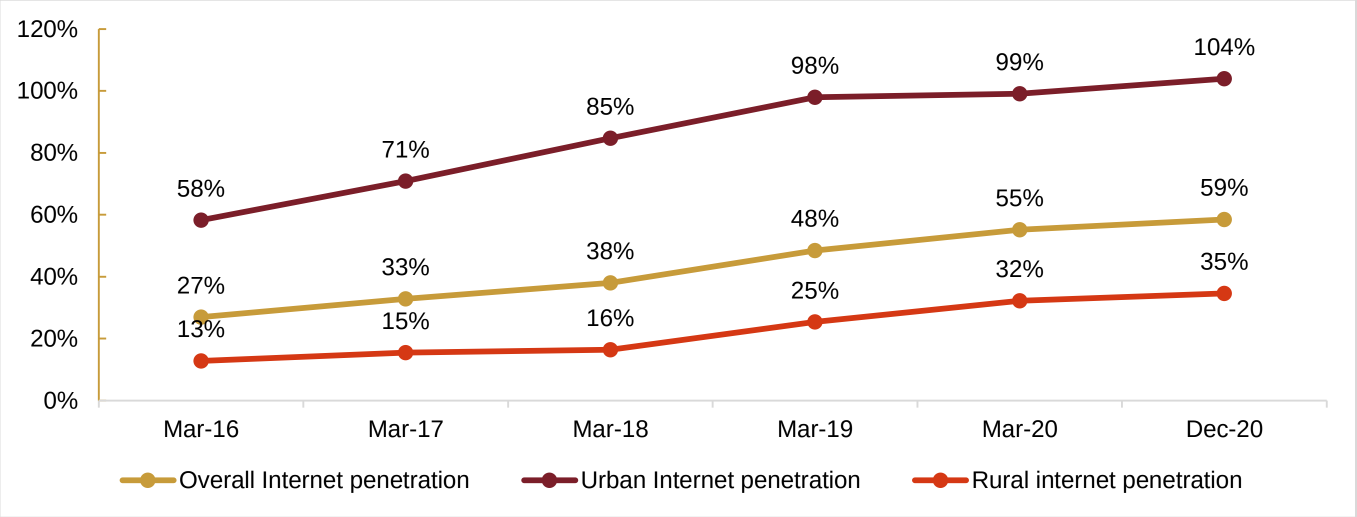
Note: ATM numbers do not include cash recyclers, P: Projected
Source: RBI, CRISIL Research

Lower Mobile and Internet penetration in rural India will drive growth in SURU regions

India has witnessed a dramatic surge in internet users over the past few years with internet penetration as a percentage of total population touching ~60% as of fiscal 2021 compared to less than 30% in fiscal 2016. This growth has largely been fuelled by the availability of smartphones at cheaper price points and availability of 4G connectivity at affordable prices. While internet penetration in urban areas have crossed 100%, in rural areas, the penetration is still below 40%.

The lower penetration rates for mobile and internet users in rural India creates a higher demand for physical financial infrastructure like ATMs. CRISIL Research believes that ATMs will continue to subsist with non-cash forms of transactions in the SURU regions even as mobile and internet penetration increases.

Internet penetration continues to increase



Source: TRAI, CRISIL Research

Inflows from migrant workers will continue to increase ATM footfall in SURU regions

Another driver of cash and ATMs in the SURU regions has been the influx of migrant workers into cities and metro areas who return money to their homes and families in rural areas. As per census 2011, the total number of migrants in India were 454 million. However, only about 20% of them are migrant workers. More than 100 million migrant workers send money to their families based in rural areas for their livihood.

Annexures

Cost estimates of operating ATMs by various players in the industry

PSBs (Other than SBI) – Cost estimate of expenses per month per ATM

Particulars	Amount (Rs.)
Rentals	5,600 to 15,700
Cost for Care Takers (2-3 shift)	36,023 to 37,250
Others including AC/Power/cleaning etc	7,700
Any other recurring expenses per ATM per month:	15,850
Cost for Cash Management per ATM per month	13,700
Any other yearly expenses per ATM (Depreciation)	12,527
Total Monthly expenditure	83,700 to 95,027
New Expenditure for ATM compliance (EMV, ASD, TSS etc)	80,000 to 100,000
Cash Management guideline compliance cost	4000-5000 pm
Increase in monthly ATM expenditure by 10-15 % due above compliance	

Source: RBI Committee report to review the ATM interchange fee structure [28]*, October 2019*

SBI (all approx. costs per month)

Particulars	Amount (Rs.)
Rentals (Metro Rs. 25000; Urban Rs. 12000; SU/RU Rs. 6000)	6,000 to 15,000
Electricity (Metro Rs. 15000 ; Urban Rs. 12000 ; SU/RU Rs. 8000)	8,000 to 12,000
Cost for Care Takers (2-3 shift)	30,000 to 40,000
Repairs	3,000
Any other recurring expenses per ATM per month: i.e. Managed Services	4,000
Cost for Cash Management per ATM per month	5,000
Any other yearly expenses per ATM (Depreciation) @20% of (2.77 lac ATM cost)	55,400
AMC of Machine (yearly) '@6% @Rs.2.77 lac/ATM + 5% for SIS/site	16,000
E-Surveillance '@ Rs.3900 / site / month	3,900
Total Monthly expenditure	65,850 to 88,850
New Expenditure for ATM compliance (EMV only)	100 crore
One Time cost: Cost for Switch Certification & Development, Procurement of EMV Software, License & OEM Development costs for machines having the EMV Hardware, physical visit charges for installation	
Anti-skimming device per machine	50,000
Whitelisting Software Rs.12 Cr procurement cost and Rs.2 Cr Opex per year	12 and 2 crore
Cash Management guideline compliance cost, increase in existing fees by	3000-4000
Increase in monthly ATM expenditure by 15-20 % due above compliance	

Source: RBI Committee report to review the ATM interchange fee structure [28]*, October 2019*

Private Banks - Cost estimate of expenses per month per ATM

Particulars	Amount (Rs.)
Site rentals	20,000
Cash in Transit (CRA cost)	10,500
Electricity	7,200
Housekeeping and other cost	3,500
FLM/SLM/Ins.of Assets/AMC of ATMs/EJ Pulling	6,000
Cash management & forecasting / chargeback loss	1,000
Depreciation on assets	12,500
Cost of Fund (capex)	5,500
Sub-total cost per ATM (a)	66,200
Security cost	16,000
E- surveillance	7,000
Sub - total (b)	23,000
Cost of fund (Cash at ATMs) (c)	8,500
IT related cost	5,000
Amortization of EMV License fee , HDE, Anti Skimming etc.	3,500
AMC	500
Sub - total (d)	9,000
TOTAL Cost of Operating ATM (a+b+c+d)	106,700
Additional cost for complying with Cassette Swap requirement	
Additional cost of cash post Cassette swap-Due to increased cash in transit	8,500
Implementing cassette swap	8,000
Cash management activity	4,000
TOTAL	20,500

Source: RBI Committee report to review the ATM interchange fee structure [28], October 2019

Brown Label ATM Operators - Cost estimate of expenses per month per ATM

Particulars	Amount (Rs.)
Lease Cost	10,900
Site Rental Cost	14,500
Guarding Cost (assuming 25% Guarding and 75% E Surveillance)	15,750
Cash Management Cost	9,750
Power & Site Maintenance Cost	16,500
Other Recurring Cost	3,165
Existing Operating cost (a)	70,565
Add: Cost of MHA, Cassette Swap, ATM Security & EMV compliance (b)	13,167
TOTAL Cost of Operating ATM (a+b)	83,732

Source: RBI Committee report to review the ATM interchange fee structure [28], October 2019

White Label ATM Operators- Cost estimate of expenses per month per ATM

Particulars	Amount (Rs.)
Rental	6500
Site Maintenance	1,765
Power	2,000
Bandwidth, Data center, Infra	987
FLM, SLM & AMC	2,892
Asset Insurance	500
e-survelliance	7,000
Sales and Marketing	1,000
Admin & overheads	6,814
Fixed cost (a)	29,458
Cash logistics	11,682
Cash sourcing	2,000
Working capital (cash in ATM)	5,000
Variable cost (b)	18,682
Finance Cost (c)	12,702
TOTAL Cost of Operating ATM (a+b+c)	60,842
Above cost includes cost of compliance (Rs.13,900) for new CRA norms & cassette swap, e-surveillance, Anti skimming & other network security related cost	

Source: RBI Committee report to review the ATM interchange fee structure [28], October 2019

White Label ATMs overview

Evolution of WLAs in India

Until 2012, only banks were permitted to set up Automated Teller Machines (ATMs) in India. According to RBI, as of March 2012, the number of ATMs deployed in the country were 95,686. But, almost 70% of the ATMs deployed were in urban and metro areas. With an objective to expand the ATM network in unbanked and underbanked regions of the country, in June 2012, RBI decided to permit non-bank entities to set-up, own and operate ATMs in India. In June 2012, RBI has released below guidelines for WLAs operations in India.

The primary objective of permitting non-banks to operate WLAs was to enhance the spread of ATMs in semi-urban and rural areas where bank-owned ATM penetration was not growing.

The RBI guidelines stated that non-bank entities incorporated in India under the Companies Act, 1956 will be permitted to set up, own and operate ATMs in India. Prospective operators/applicants were required to seek authorisation from the Reserve Bank under the Payment and Settlement Systems (PSS) Act, 2007. For setting up WLAs, the minimum net worth criteria for entities was set at Rs. 100 crore as per the latest financial year's audited balance sheet.

In 2013 and 2014, RBI issued Certificate of Authorisation to eight non-bank entities for setting up and operating White Label ATMs (WLAs) in India. However, as of July 2021, only 4 players are present in the WLA industry in India. These are India1 Payments Limited (formerly known as BTI Payments Private Limited), Tata Communications Payment Solutions Limited, Hitachi Payment Services Pvt. Ltd. and Vakrangee Limited.

List of players in the WLA segment

Entity	Month and Year of Issuance of Certificate	Current Status as of July 2021
Tata Communications Payment Solutions Limited	May 2013	Operational
Hitachi Payment Services Pvt. Ltd.	November 2013	Operational
Vakrangee Limited	January 2014	Operational
Muthoot Finance Limited	February 2014	Authorisation under process of cancellation as the company surrendered its certificate of Authorisation in 2020 due to mounting losses
India1 Payments Limited	February 2014	Operational
SREI Infrastructure Finance Limited	May 2014	Operations ceased as the company surrendered its certificate of Authorisation in 2018 due to viability issues
RiddiSiddhi Bullions Limited	May 2014	RBI revoked the certificate of Authorisation in March 2021 due to Non-compliance with regulatory requirements
AGS Transact Technologies Ltd	June 2014	RBI revoked the certificate of Authorisation in March 2021 due to Non-compliance with regulatory requirements

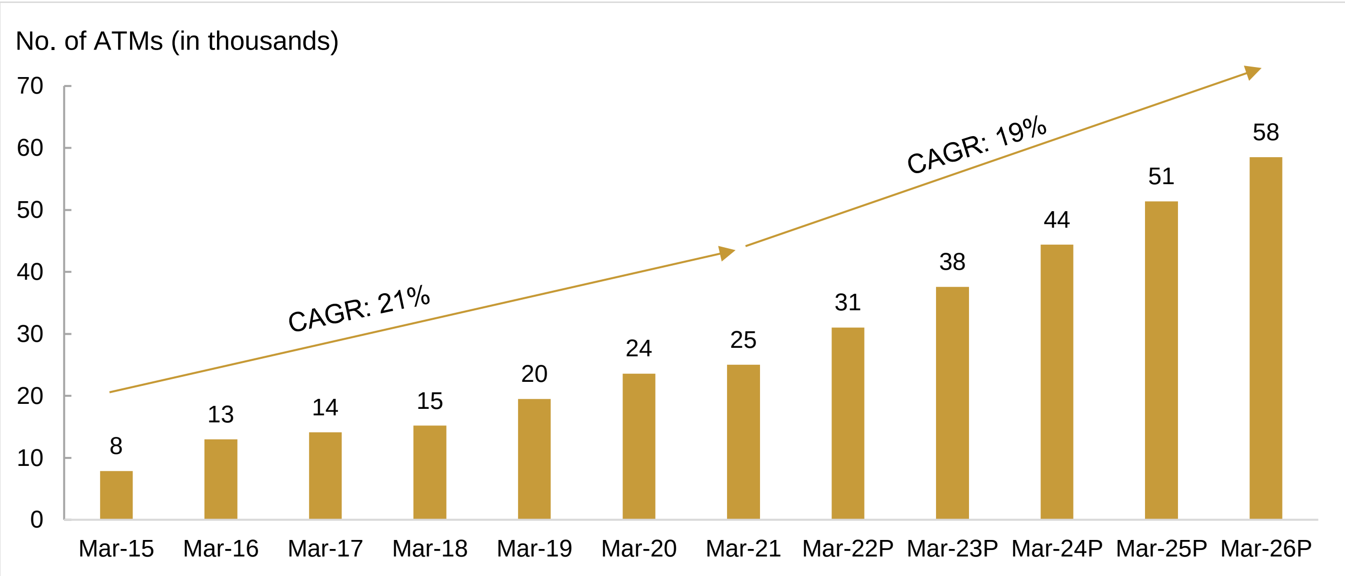
Source: RBI, CRISIL Research

White Label ATMs deployed to grow at 19% CAGR between March 2021 and March 2026

White label ATMs are owned by non-banking entities that set up and operate their own ATMs. WLAOs facilitate financial inclusion by providing basic financial services by deploying ATMs in under banked and unbanked areas. These White label ATM Operators (WLAOs) charge an interchange fee to banks for each transaction made by the bank customer at these ATMs. These are also known as Independent ATM deployers in other parts of the world.

In India, ATMs deployed by WLAs reached over 25,000 in numbers with a strong 21% CAGR between March 2015 and March 2021. Share of WLAs in the market has been increasing from over past six years from 4.2% as of March 2015 to 10.5% as of March 2021. In first half of fiscal 2022, WLAs have gained momentum by adding 2,394 ATMs compared to only 598 ATMs added in the same period last fiscal year.

ATMs deployed by WLAs have grown at a 21% CAGR over last six years



Note: ATM numbers do not include cash recyclers, P-Projected
Source: RBI, CRISIL Research

In June 2021, RBI reviewed the ATM interchange fees for ATM transactions. The RBI allowed increase in interchange fee per transaction from Rs. 15 to Rs. 17 for financial transactions and from Rs. 5 to Rs. 6 for non-financial transactions in all centres from August 1, 2021. This presents as a huge incentive for WLA operators to deploy more ATMs in the country, especially in rural and semi-urban areas, where the penetration is lower.

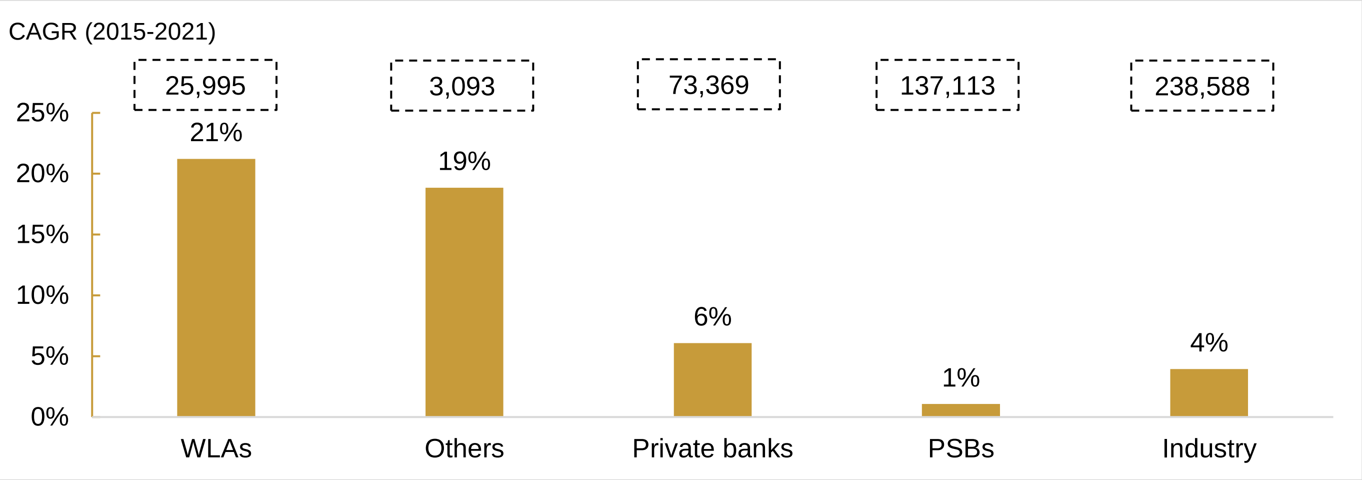
In addition to lower ATM penetration in the country, especially in rural and urban areas, with increasing accessibility of banking services in rural and semi-urban areas and increasing debit and credit card penetration, number of ATM terminal deployed by WLAs are expected to witness a strong growth over the next three years. CRISIL Research expects the number of ATMs deployed by WLAs to grow at a CAGR of 19% between March 2021 and March 2026 to touch ~58,000 in March 2026.

Share of WLAs in total ATMs deployed to continue to increase

In India, the share of IADs/ WLA operators has been increasing over past six years from 4.2% as of March 2015 to 10.5% as of March 2021. In recent years, banks, especially public sector banks (PSBs) have slowed down the ATM deployment in the country. Most of the growth in future in ATM deployments is expected to come from rural and semi-urban regions. With highest focus on these regions and PSBs slowing down on deployments, this provides huge opportunity and potential for the WLA operators in the country to deploy more ATMs and increase the share.

Over last six years, WLAs deployed in the country have grown at the fastest CAGR of 21% compared to overall ATMs deployed which grew at a 4% CAGR. PSBs, which also have higher focus on rural and semi-urban areas, grew their ATMs deployed in these regions by only 1% between March 2015 and March 2021.

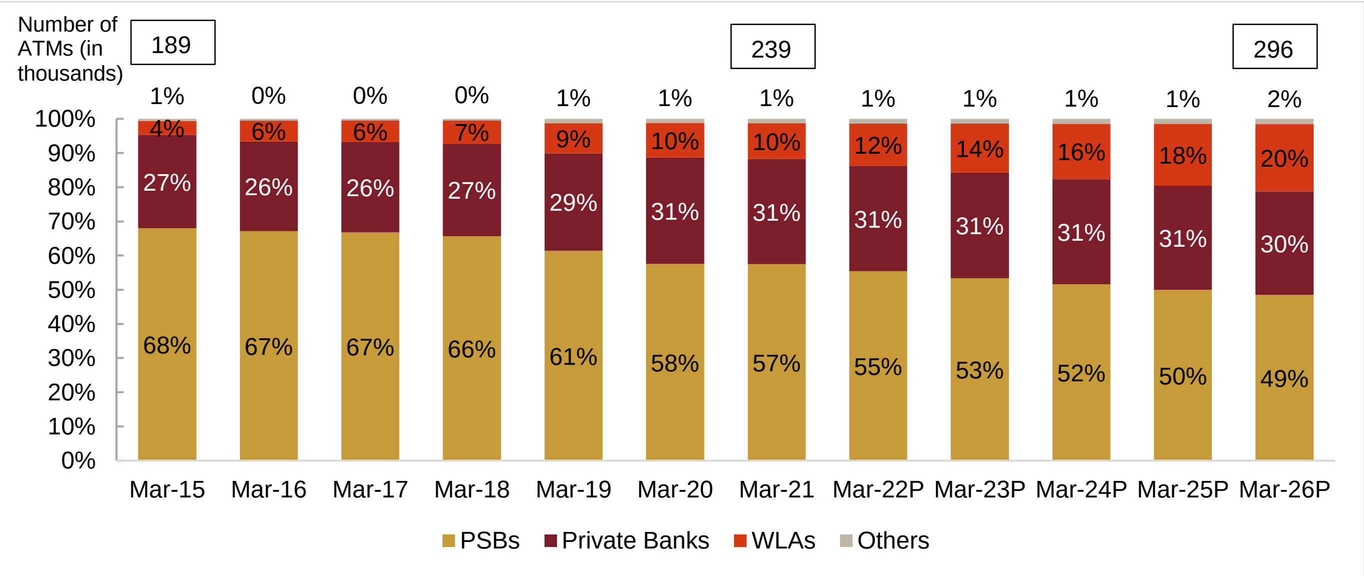
Growth in ATM terminals deployed by various player groups



Notes: ATM numbers do not include cash recyclers, Others include foreign banks, small finance banks and payments banks

Source: RBI, CRISIL Research

WLAs projected to account for 20% of ATMs in India by fiscal 2026



Note: ATM numbers do not include cash recyclers, Others includes foreign banks, SFBs and Payments Banks

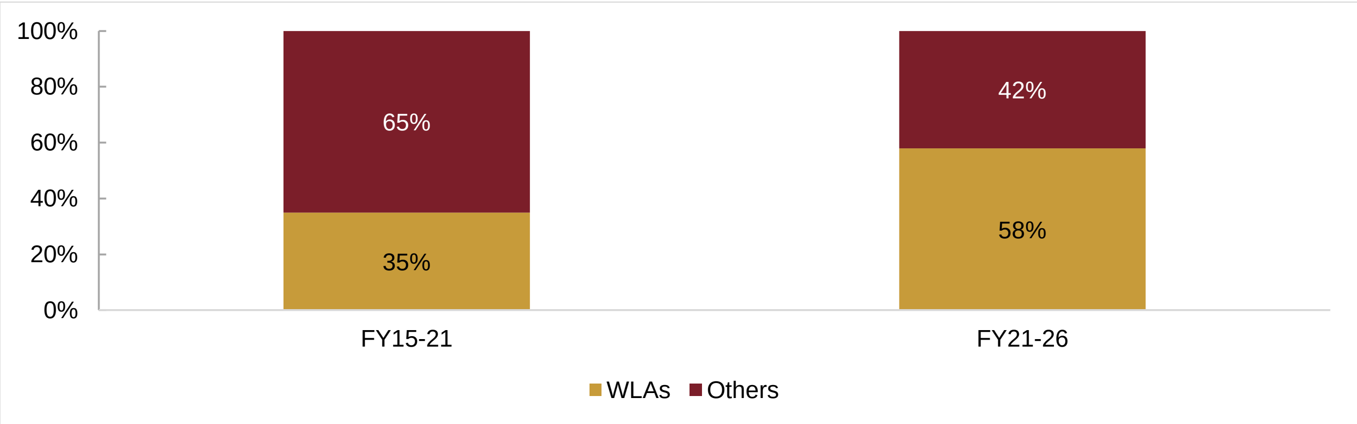
Source: RBI, CRISIL Research

In developed economies like in the US and UK, expansion of retail banking services through digital channels has led to financial institutions de-emphasising traditional physical branches and conventional ATMs to reduce operational costs. This has resulted in an increase in share of Independent ATM Deployers (IADs)/ White label ATMs. The adoption of white label ATMs has increased owing to factors such as high initial investment and high maintenance costs for banks deploying conventional ATMs. Moreover, these ATMs enable banks to expand their ATM network as well as reduce the complexities involved in setting up ATMs in low footfall areas, thus driving their adoption in the industry.

In India as well, we expect a similar trend to play out, as banks increasingly focus on how the can service their customers in a more efficient manner and enter into relevant tie-ups with WLAOs for ATM usage instead of deloying ATMs on their own. The share of WLAs/ IADs is expected to improve going forward, as financial penetration in rural and semi-urban regions increases and banks slowdown due to high investment and maintenance costs. Recent RBI decision to increase the interchange fee has also incentived the players in the industry to deploy more ATMs. CRISIL Research expects that as of March 2026, WLAs will account for 18% of the total ATMs deployed in the country.

WLAs put together accounted for 35% of incremental ATMs added during fiscal 2016 to fiscal 2021. Going forward, the share of WLAs in incremental ATMs deployed is expected to touch 58% during fiscal 2021 to fiscal 2026, as banks are likely to be extremely selective while deploying ATMs.

Share of in incremental ATMs added



Note: P-Projected

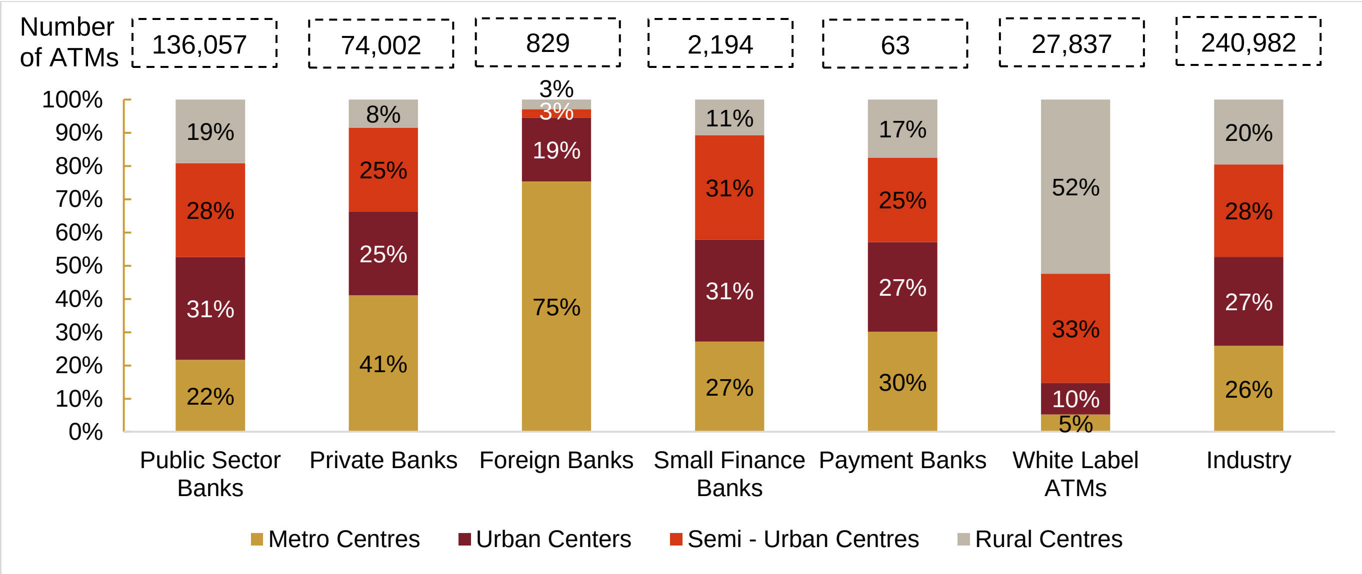
Source: CRISIL Research

Higher focus of WLA operators on SURU regions to drive growth

Among all the players in the Indian ATM industry, WLA operators have highest focus on semi-urban and rural areas with 85% of ATMs deployed in these areas compared to 48% of total ATMs in India deployed in these regions. Among other major players, public sector banks have higher focus in SURU regions with 48% of ATMs deployed in these areas. Private sector banks have relatively lower focus on SURU regions.

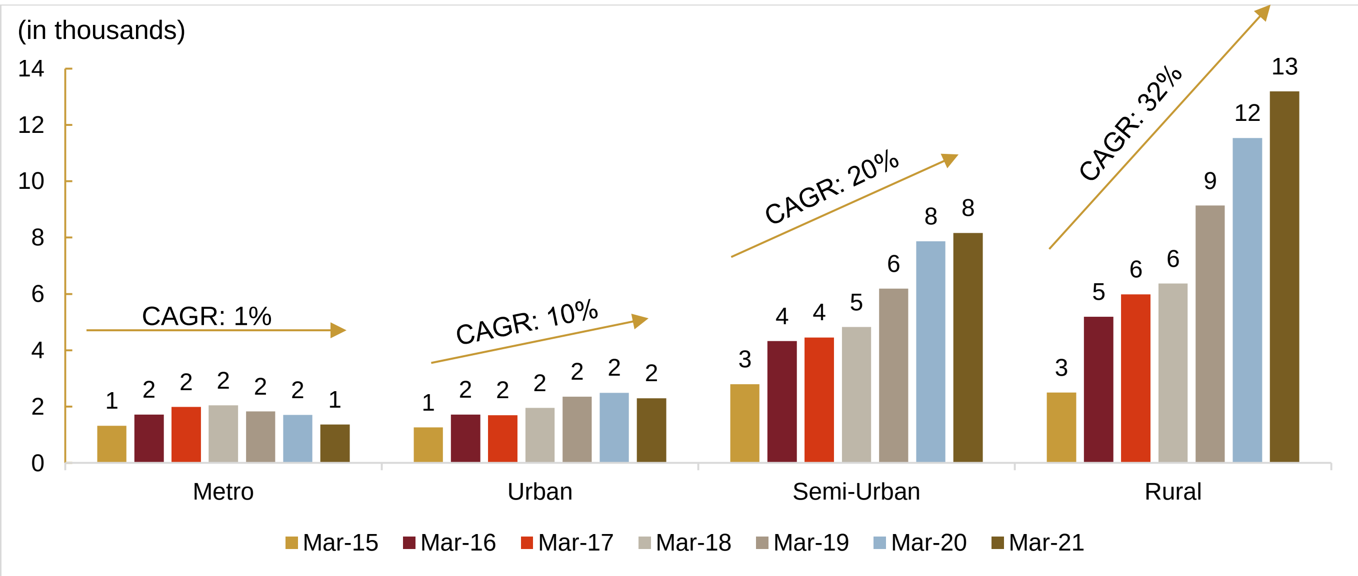
Between March 2015 and March 2021, WLAs deployed in rural and semi-urban areas have grown the fastest at CAGR of 20% and 32% respectively. SURU regions, being underpenetrated in terms of banking infrastructure are expected to drive future growth as well. With WLAs focusing on these regions, it will drive growth for WLA operators as well.

White label operator highly focus on Semi-urban and rural areas (September 2021)



Note: ATM numbers do not include cash recyclers
Source: RBI, CRISIL Research

WLA ATM deplyments have grown the fastest in semi-urban and rural areas



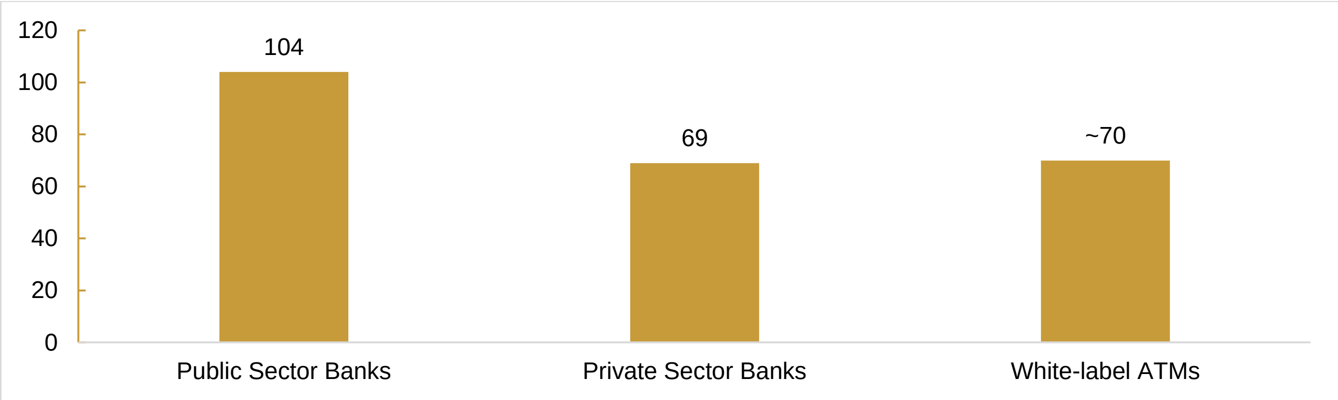
Note: ATM numbers do not include cash recyclers

Source: RBI, CRISIL Research

Transactions per ATM for WLAs second highest after public sector banks

According to the RBI Committee report dated July 2020, the overall cost of operating the ATMs is lower for WLA operators compared to other players like public sector banks, private sector banks and Brown-label ATM operators. However, relatively lower transactions per ATM lead to relatively higher average cost per transaction compared to public sector banks and BLAOs. With ATM transactions increasing over a period of time as the vintage of an ATM at a location increases, the cost per transaction is likely to go down, thereby benefiting the WLA operators in the country.

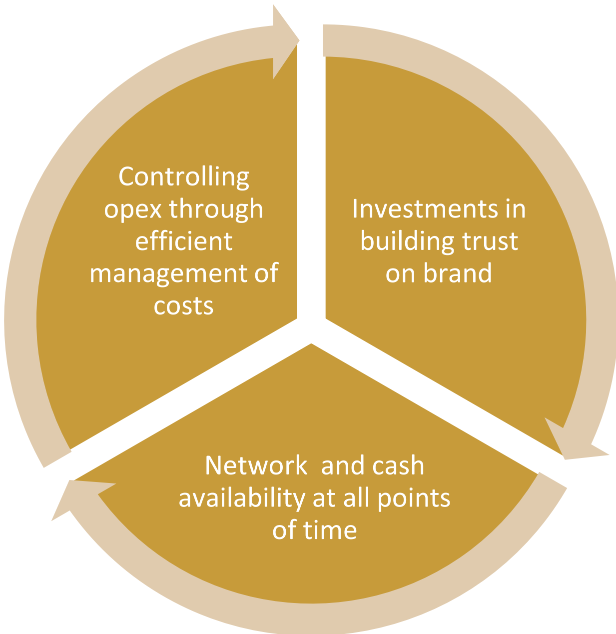
Transactions per ATM per day



Note: Calculations are based on monthly data for FY20, FY21 and Q1FY22

Source: RBI, Industry, CRISIL Research estimates

Critical Success Factors for WLAs



Source: CRISIL Research

Investments in building trust on the brand

White Label ATM operators operate under a B2B business model by entering into partnerships with sponsor banks. However, the revenue and profitability are heavily dependent on volume of transactions at WLAs. Hence, a WLA operator also needs to build connect with the end-customers, like in a B2C business model. Connecting with potential customers, building awareness and trust in the customer about the safety and convenience of WLAs is as important as building relationship with sponsor banks. Strong focus on investments directed at building customer trust towards the brand helps WLA operators to attract customers, footfall at ATMs and thereby revenues.

Network and cash availability at all points of time

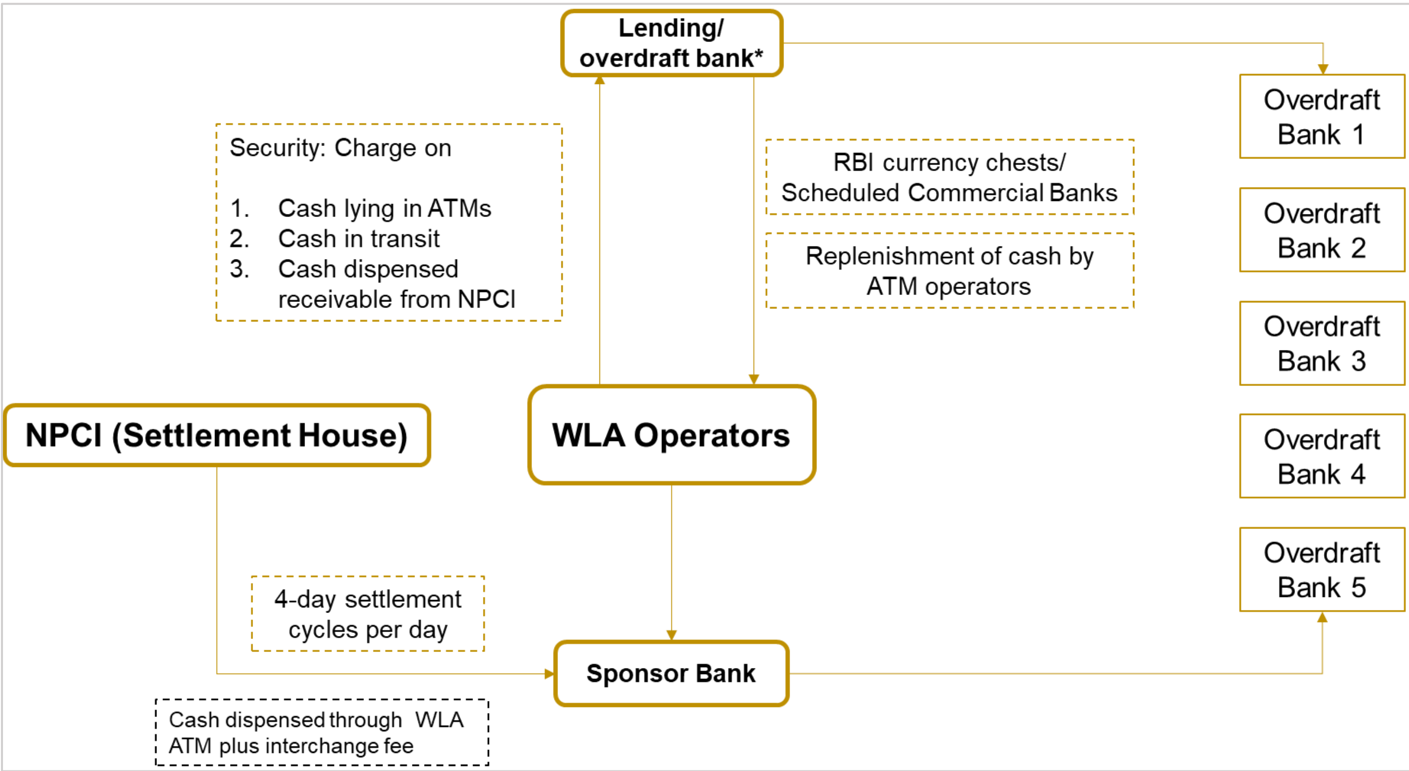
Given the competitive nature of the industry, WLA operators need to develop a strong network of ATMs in their target markets for deeper penetration and optimum servicing. To maximize the transaction throughput and more importantly, ensuring customer satisfaction, availability of the ATM network at all points of time and the ATMs being adequately stocked with cash is critical.

Controlling opex through efficient management of costs

Although volumes drive the revenue for players in the ATM industry, it becomes critical for ATM operators to manage costs effectively. Given the need to keep adding ATMs and the time period taken to break even, it is important that costs are managed in an efficient manner by outsourcing activities as required to enable an ATM operator to be profitable even at lower volumes.

Operations of White Label ATM operators

In the operations of WLAOs, there are four intermediaries involved in the entire transaction process. The WLAO operates through a lending bank, a sponsor bank that manages settlements and ATM network provider like NPCI.



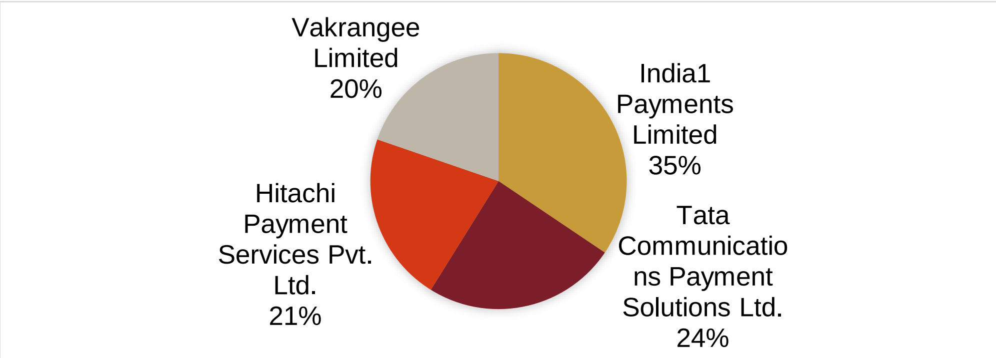
*Note: *Lending Bank/Overdraft Bank is mostly also a sponsor bank*

Source: Company Reports, CRISIL Research

India1 Payments accounts for one-third of the White Label ATM segment

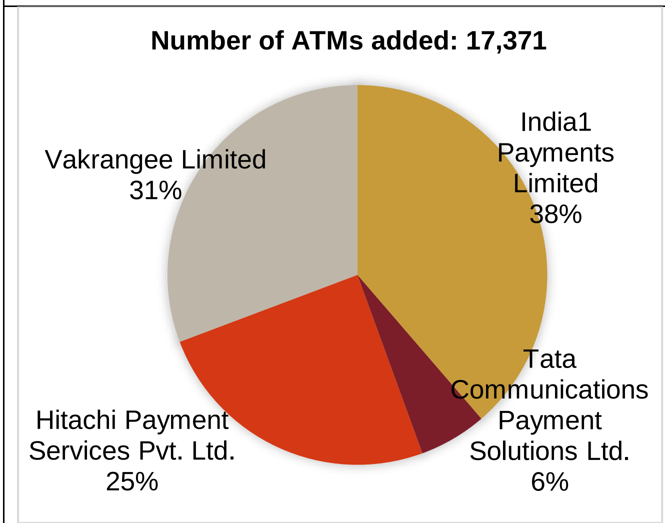
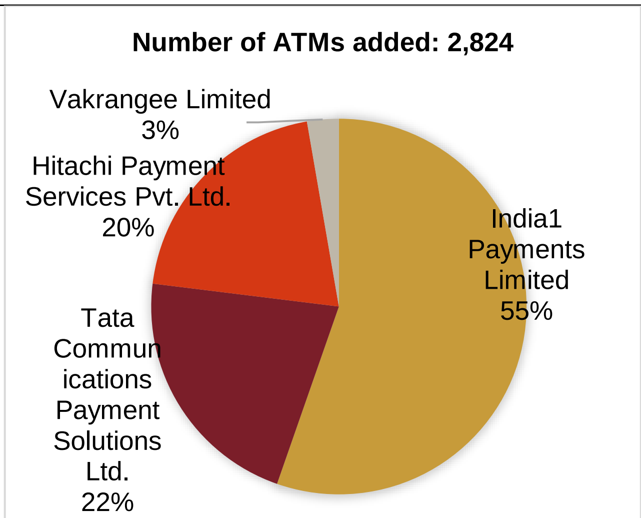
The white-label ATM segment consists of four players that are operational as of September 30, 2021. These four players put together had 27,837 ATMs on the ground as of the same date. As of September 30, 2021 and March 31, 2021, India1 Payments Limited was the leader in the WLA segment in the ATM industry with 35% and 32% of market share respectively in terms of ATMs deployed, followed by Tata Communication Payments which accounts for almost one-fourth of the ATMs deployed by WLAOs. When one considers all banks and WLAOs put together as well, India1 Payments Limited was the third largest operator of ATMs in terms of the number of ATMs in the SURU regions as of March 31, 2021 and second largest as of September 30, 2021. India1 Payments Limited is the largest white label ATM operator in India with an estimated market share of 47-49% of the white label ATM market in terms of transactions during first half of fiscal 2022.

Market share of player in the WLA segment (as of September 30, 2021)



Source: RBI, CRISIL Research

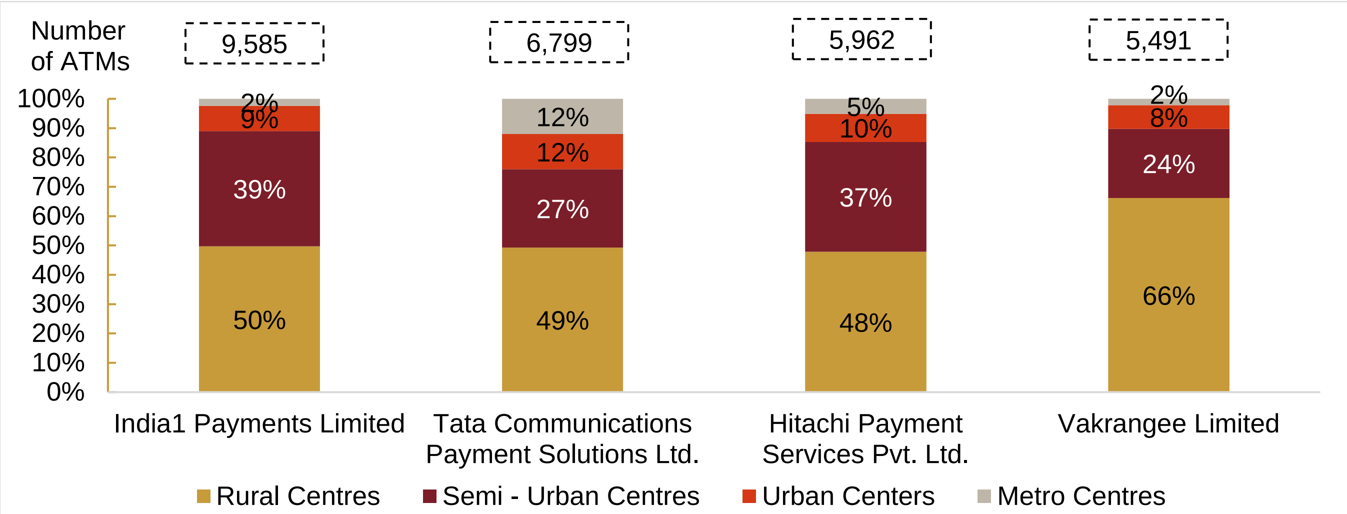
In terms of incremental ATMs added over last six years, India1 Payments Limited is the market leader in the WLA segment with 38% market share. In the first half of fiscal 2022 as well, India1 Payments Limited added the most number of ATMs accounting for 55% of total ATMs added in the WLA segment.

Incremental ATMs added by WLAs between March 31, 2015 and March 31, 2021	**Incremental ATMs added by WLAs between March 31, 2021 and September 30, 2021**
	

Source: RBI, CRISIL Research

The largest player in the WLAO space, India1 Payments Limited, has 89% of the ATM terminals deployed in SURU regions, which is almost in line with Vakrangee Limited that had 90% of the ATM terminals deployed in SURU regions. India1 Payments Limited is also the second largest semi-urban and rural ATM brand after SBI as of September 30, 2021. Tata Communication Payments solution has the lowest focus on SURU regions.

The segment leader, India1 Payments, has 89% of the ATMs deployed in semi-urban and rural areas (as of September 30, 2021)

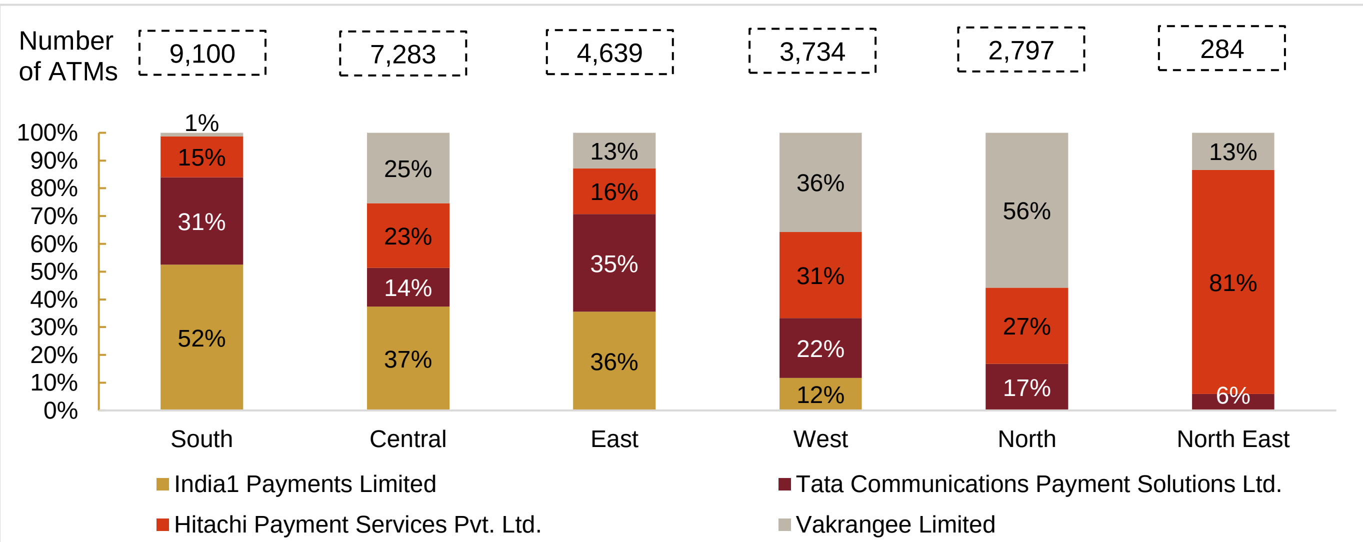


Note: ATM numbers do not include cash recyclers

Source: RBI, CRISIL Research

In terms of geographical presence of the WLAOs, Southern and Central India is dominated by India1 Payments Limited capturing 52% and 37% of these markets respectively. While Vakrangee Limited dominates the Western and Northern regions, Tata communications Payments and Hitachi Payments have major share in East and North East regions respectively.

Region-wise market share of players in WLA segment (as of September 30, 2021)



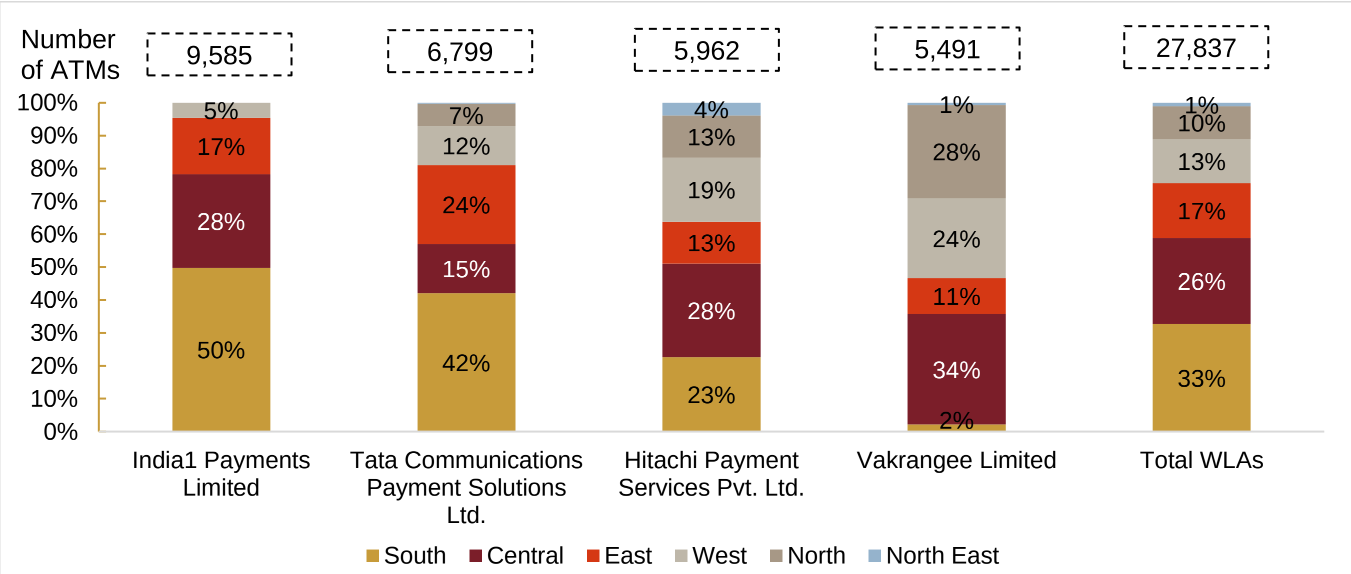
Note: (1) ATM numbers do not include cash recyclers

(2) As per RBI classification, Southern region includes Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Telangana, Lakshadweep and Pondicherry, Central region includes Chhattisgarh, Madhya Pradesh, Uttarakhand and Uttar Pradesh, Northern region includes Chandigarh, Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Delhi and Ladakh, Eastern region includes Bihar, Jharkhand, Odisha, Sikkim, West Bengal and Andaman and Nicobar Islands, Western regions includes Goa, Gujarat, Maharashtra, Daman and Diu and Dadra and Nagar Haveli and North Eastern region includes, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura.

Source: RBI, CRISIL Research

In terms of concentration of ATMs deployed, India1 Payments has 78% of ATMs deployed in Southern and Central region and Tata Communications Private Limited has 66% of ATMs deployed in Southern and Eastern Regions. India1 Payments also has highest concentration of ATMs in top 10 states with 95% of the ATMs deployed in these states compared to overall WLA segment having 82% of ATMs deployed in top 10 states. In terms of top 5 states, Vakrangee Limited has the highest concentration with 75% of ATMs deployed in these states.

Distribution of ATMs deployed by various players in the WLA segment (as of September 30, 2021)



Note: (1) ATM numbers do not include cash recyclers

(2) As per RBI classification, Southern region includes Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Telangana, Lakshadweep and Pondicherry, Central region includes Chhattisgarh, Madhya Pradesh, Uttarakhand and Uttar Pradesh, Northern region includes Chandigarh, Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Delhi and Ladakh, Eastern region includes Bihar, Jharkhand, Odisha, Sikkim, West Bengal and Andaman and Nicobar Islands, Western regions includes Goa, Gujarat, Maharashtra, Daman and Diu and Dadra and Nagar Haveli and North Eastern region includes, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura.

Source: RBI, CRISIL Research

State-wise distribution of ATMs deployed by various players in the WLA segment (as of September 30, 2021)

Players	ATMs deployed in to 10 states	ATMs deployed in top 5 states	Major states and their share
India1 Payments Limited	95%	70%	Tamil Nadu (21%), Uttar Pradesh (20%), Bihar (13%), Andhra Pradesh (9%), Karnataka (8%)
Tata Communications Payment Solutions Ltd.	86%	58%	Tamil Nadu (17%), Telangana (10%), Maharashtra (10%), Bihar (10%), Uttar Pradesh (9%)

Hitachi Payment Services Pvt. Ltd.	75%	52%	Uttar Pradesh (16%), Maharashtra (14%), Tamil Nadu (11%), Madhya Pradesh (5%), Haryana (5%)
Vakrangee Limited	91%	75%	Rajasthan (22%), Uttar Pradesh (21%), Maharashtra (20%), Madhya Pradesh (8%), Odisha (4%)
Total (WLAs)	82%	56%	Uttar Pradesh (17%), Tamil Nadu (14%), Maharashtra (11%), Bihar (8%), Andhra Pradesh (6%)

Source: RBI, CRISIL Research

India1 Payments has been witnessing consistent growth in revenues and profitability

India1 Payments has been witnessing consistent growth in revenues and profitability over the last 3 years ending March 31, 2021 when compared to other players in the WLA segment. During this period, its revenues grew at a 22% CAGR while its EBITDA rose at a much higher 102% due to continuous expansion in margins. Its EBITDA margins are comparable to Hitachi Payments Services, which provides managed services as well to banks besides operating WLAs. Hitachi Payment Services and Vakrangee Limited have multiple lines of business and hence may not be an exact comparable for India1 Payments.

In fiscal 2021, India1 Payments saw its revenues jump by 23% despite Covid-19, whereas Tata Communication Payments' revenues declined by 36% in the same year. This can be attributed to reduction in number of ATMs deployed by Tata Communication Payments in fiscal 2021 from 8,290 ATMs as of March 31, 2020 to 6,189 ATMs as of March 31, 2021. India1 Payments' profit after tax also turned positive in fiscal 2021 as healthy revenue growth which helped in better absorption of fixed costs.

In fiscal 2021, India1 Payments had the highest return on equity of 3% followed by Vakrangee Limited with 2%. Among the four players, Vakrangee Limited had the highest working capital ratio of 10.8 times followed by India1 Payments with 1.1 times. Given the need for WLA operators to add ATMs to improve network strength and develop relationships with banks, the industry is quite capital intensive and building scale takes time, resulting in entry barriers. Further, given the nature of the business, where working capital need to directly linked to the number of ATMs on the ground and the cash at the ATMs, working capital intensity is expected to remain high.

Financial Assessment of players in WLA segment

Players	Year	Revenue (Rs million)	Revenue growth (Y-o-Y)	EBITDA (Rs million)	EBITDA Margin	PAT (Rs million)	PAT Margin	Working Capital Ratio (times)	D/E (times)	RoE
India1 Payments Pvt. Ltd	FY21	3,251	23%	866	27%	57	2%	1.1	3.9	3%
	FY20	2,641	13%	634	24%	(70)	-3%	1.1	4.6	-7%
	FY19	2,334	31%	453	19%	(237)	-10%	0.9	7.3	-35%
Tata Communications	FY21	2,217	-36%	47	2%	(1,394)	-63%	0.9	2.6	-112%
	FY20	3,461	-6%	726	21%	(1,058)	-31%	0.9	1.8	-48%

Payment Solutions Ltd.	FY19	3,694	-5%	177	5%	(1,252)	-34%	1.0	1.3	-37%
Hitachi Payment Services Pvt. Ltd.	FY20	18,128	1%	4,855	27%	198	1%	0.7	0.5	1%
	FY19	18,018	25%	3,210	18%	1,076	6%	0.9	0.8	11%
Vakrangee Limited	FY21	2,956	-58%	822	28%	514	17%	10.8	0.0	2%
	FY20	6,993	-54%	914	13%	645	9%	16.4	0.0	2%
	FY19	15,279	-76%	490	3%	202	1%	10.7	0.0	1%

Note: 1. EBITDA Margin is calculated as EBITDA divided by Revenue,

2. PAT Margin is calculated as PAT divided by Revenue,

3. Working Capital Ratio is calculated as Average Current Assets divided by Average Current Liabilities,

4. D/E is calculated as Average short-term and long-term borrowings divided by Average net worth,

5. RoE is calculated as PAT divided by Average net worth

Source: Company Reports, CRISIL Research

Regulations pertaining to WLAs in India

According to the RBI circular in 2012 which permitted non-bank entities incorporated in India under the Companies Act 1956, to set up, own and operate ATMs in India, major guidelines issues for WLAOs are as follows:

Eligibility Criteria	• The Memorandum of Association (MOA) of the applicant entity must cover the proposed activity of operating WLAs. • In case of any Foreign Direct Investment (FDI) in the applicant entity, necessary approval from the competent authority as required under the policy notified by Department of Industrial Policy and Promotion (DIPP) under the consolidated policy on FDI and regulations framed under the Foreign Exchange Management Act (FEMA) must be submitted while seeking authorization. • Non-bank entities must have net worth of at least Rs 100 crore as per the last audited balance sheet. • The net worth of at least Rs 100 crore has to be maintained at all times.
Other major guidelines	• The authorised non-bank entity would have the freedom to choose the location of the WLA. • Only cards issued by banks in India (domestic cards) would be permitted to be used at the WLAs in the initial stage. • Acceptance of deposits at the WLAs, by the WLAO would not be permitted. • The WLAO would be permitted to display advertisements and offer value added services as per the regulations in force from time to time. The advertisements placed on such ATMs would be subject to the Advertising Standards Council of India (ASCI) codes and other regulations • The extant guidelines on five free transactions in a month as applicable to bank customers for using other bank ATMs would be inclusive of the transactions effected at the WLAs. • The WLA Operator would not be entitled to any fee from the card issuer-bank other than the "Interchange" fee payable to "acquirer" bank under the bank owned ATM scenario. • While the WLA operator is entitled to receive a fee from the banks for the use of ATM resources by the banks customers, WLAs are not permitted to charge bank customer directly for the use of WLAs.
Roles and responsibilities of WLAOs	• WLAO is permitted to have more than one Sponsor Bank. All the transactions of WLAs serviced by this Sponsor Bank would be settled through it. The Sponsor Bank should be a member of the ATM Network Operators/ Card Payment Network Operators authorised by the RBI and also be a member of the RTGS. • WLAO may ensure that there are no operational constraints particularly with reference to security and customer service while considering multiple sponsor bank relationship. • Cash Management at the WLAs will be the responsibility of the Sponsor Bank, who may if required, make necessary arrangements with other banks for servicing cash requirements at various places. • While the cash would be owned by the WLAO, the responsibility of ensuring the quality and genuineness of cash loaded at such WLAs would be that of the Sponsor bank. • WLAO may establish connectivity with any of the authorised ATM Network Operators/ Card Payment Network Operators and ensure that the settlement of all the transactions at the WLAs shall be done only in the books of the

	Sponsor Bank through the ATM Network Operators/ Card Payment Network Operators with whom the WLAO has established connectivity. • Maintenance and servicing of the WLAs shall be the sole responsibility of the WLAO.

Source: RBI, CRISIL Research

In 2014, based on the review of operations of WLA operators, RBI decided to

- Allow WLAs to accept international credit/debit/prepaid cards. The cards issued under card payment network schemes (authorized under the PSS Act 2007) were allowed for the purpose.
- Permit the facility of Dynamic Currency Conversion (DCC) for the use of international cards at WLAs, if the operator so decides to implement the DCC facility. The currency conversion rate will only be obtained from authorised dealer bank.
- Enable delinking cash supply from that of sponsor bank arrangements. WLAO may now tie up with other commercial banks for cash supply at WLAs. A suitable Service Level Agreements (SLA) may be drawn up between the WLAO and the cash supplier bank for adequate supply of genuine and good quality notes.

In December 2016, after demonetisation was announced in November 2016, to mitigate the challenges faced by WLA operators in sourcing cash from their sponsor banks, RBI allowed the WLAOs to source cash from retail outlets. In this arrangement, the WLAOs are responsible for the quality and genuineness of currency notes dispensed through their ATMs and only ATM fit notes are to be used for this purpose. WLAOs were also held responsible for any liabilities and disputes arising from the arrangement. Furthemore, 60% of the cash sourced in such arrangements should be dispensed through WLAs located in rural and semi-urban areas. This permission was revoked by RBI in March 2019.

In March 2019, in order to improve the viability of WLAs, RBI decided to allow the WLA operators to:

- Buy wholesale cash, above a threshold of 1 lakh pieces (and in multiples thereof) of any denomination, directly from the Reserve Bank (Issue Offices) and Currency Chests against full payment.
- Source cash from any scheduled bank, including Cooperative Banks and Regional Rural Banks.
- Offer bill payment and Interoperable Cash Deposit services, subject to technical feasibility and certification by National Payments Corporation of India (NPCI).
- Display advertisements pertaining to non-financial products / services anywhere within the WLA premises, including the WLA screen, except the main signboard. It shall be ensured that the advertisements running on the screen disappear once the customer commences a transaction.

Allowing the WLAOs to source cash directly from RBI chests across the country has resulted in higher availability of cash in all denominations and a reduction in transportation and operational costs for white label operators. Moreover, the RBI now permits white label operators to offer bill payment service and cash deposit services on ATM, which the WLA operators may offer its customers in future. According to CRISIL Research, this expanded service offering provides white label operators with new revenues streams and the opportunity to improve margins.

In October 2019, with an objective to encourage innovation and competition as well as in order to benefit from diversification of risk, the RBI decided to offer on-tap authorisation for Bharat Bill Payment Operating Unit (BBPOU), Trade Receivables Discounting System (TReDS) and White Label ATMs (WLAs). The eligibility criteria for WLA Operators was as below:

Financials	Rs.100 cr Net worth (to be maintained at all times)
Major guidelines	• ATMs to be deployed in the following ratio: - 1:2:3 for Metro & Urban: Semi-Urban: Rural Regions. • Among the various regions, the ratio will be in favor of rural regions. If a WLAO deploys adequate ATMs in a rural region, it need not deploy ATMs in metro, urban or semi-urban regions to meet the ratio requirements. If a WLAO deploys ATMs in a semi-urban region, it shall deploy adequate ATMs in a rural region as per the ratio and may not deploy any ATM in a metro or urban regions.
Others	• Company registered under the Companies Act, 2013. • Entities with Foreign Direct Investment (FDI) / Foreign Portfolio Investment (FPI) / Foreign Institutional Investment (FII) shall meet the capital requirements as applicable under the extant Consolidated FDI policy guidelines. • The Memorandum of Association (MOA) must cover the specific activity. • The overall financial strength of the promoters / entity; sound technological basis to support its operations; management; governance etc. shall be other important criteria.

Source: RBI

The Reserve Bank of India had constituted a Committee in June 2019 under the Chairmanship of the Chief Executive, Indian Banks' Association to review the entire gamut of Automated Teller Machine (ATM) charges and fees with particular focus on interchange structure for ATM transactions. The committee submitted its report in July 2020. Considering the recommendation of the Committee, in March 2021, RBI decided to change the interchange fee structure for the first time after August 2012. RBI allowed an increase in interchange fee per transaction from Rs 15 to Rs 17 for financial transactions and from Rs 5 to Rs 6 for non-financial transactions in all centres effective from August 1, 2021.

Micro-ATM (MATM)

Overview

Micro-ATM is a portable device used by a merchant or a business correspondent to connect to his/her bank, authenticate customers and perform transactions. Although it is called micro-ATM, it does not have cash storage or dispensation facilities. The cash balances are reflected online but physical cash is deposited with or handed out by the merchant or a BC. The micro-ATMs are based on a bank-led model for financial inclusion, where the Aadhaar infrastructure is an overlay on the existing banking and payments infrastructure and support transactions such as deposits, withdrawals, funds transfer, balance enquiry & a mini-statement. The advantages of using a micro-ATM is that its cost of deployment is low as compared to a normal ATM and it is an interoperable device which can work with any bank.

There are various participants involved in the deployment of a micro-ATM network, the roles of which are as follows:

a. **Issuing bank:** The issuing bank is the bank that owns the customer relationship, and stores account details in its Core Banking Systems (CBS). The customer banks with the issuing bank and interacts with it for any queries, it serves as a touch point for authorizing transactions, carrying out transactions and dispute resolution.
b. **Acquiring bank:** The acquiring bank is the bank that owns the BC relationship at the transaction point. An acquirer is often a traditional bank that contracts with a payment processing company or may also a payment processor that does not offer regular banking service.
c. **Business Correspondent (BC):** A BC is appointed by the bank providing access to basic banking services using micro-ATM. Banks may either appoint an individual BC or a corporate BC, who further can appoint sub-agents. BC may own the customer as well.
d. **Technology Service Provider (TSP):** TSP provides technology to the acquiring Bank to support BC operations.
e. **Multilateral switch:** The multilateral switch is used in the case of 'off-us' transactions to provide interoperability. It routes transactions from the acquiring bank to the issuing bank, and routes the authorization, settlement and reconciliation messages. An 'off-us' transaction in case of funds transfer may involve multiple banks, viz., the acquiring bank, the issuing bank, and the recipient's bank and the process is put through by the multilateral switch. This multilateral switch is operated by NPCI and other interbank switch vendors.
f. **UIDAI**: The Aadhaar platform supports the micro-payments platform by providing methods for secure authentication of an individual, using the Aadhaar number and demographic data, biometrics and OTP. The secure authentication provided by the UIDAI facilitates interoperability among micro-ATM devices operated by different banks, much like the existing ATM network.

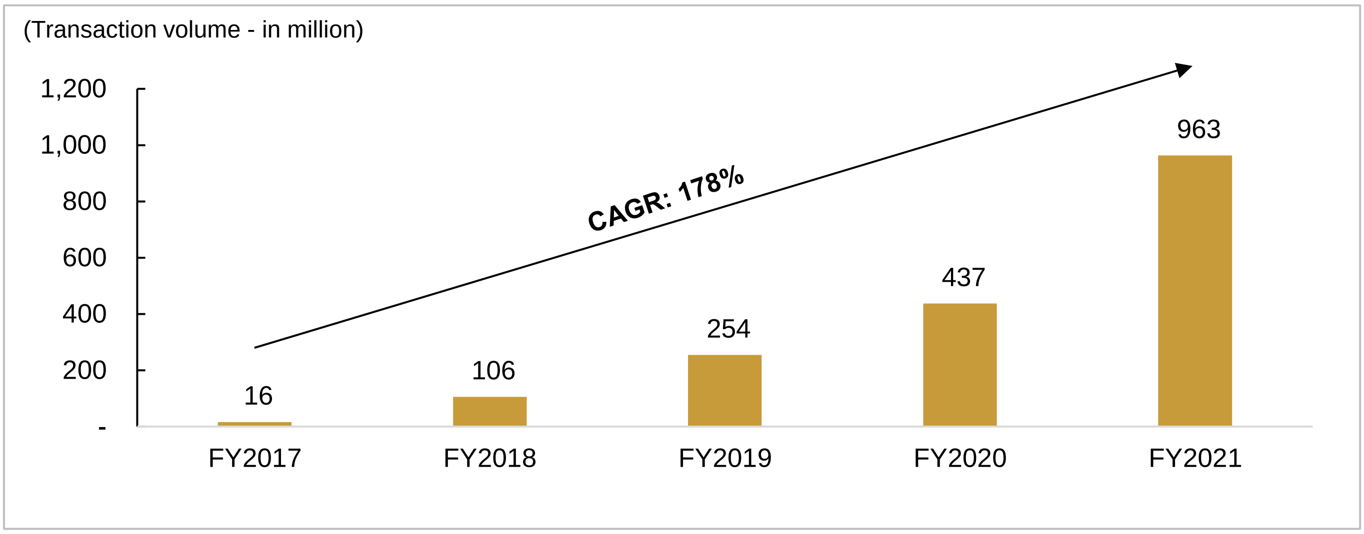
Aadhaar enables Payment Systems (AePS) transactions over Micro-ATMs grew by 92% in fiscal 2021 to touch Rs 2,286 billion

Over the past few years, AePS transactions over MATM have witnessed a strong growth, with transaction volumes growing at a CAGR of 178% between fiscal 2017 and fiscal 2021. In terms of value, it has grown at a CAGR of 216% during the same period. The micro-ATMs have added impetus to the financial inclusion efforts as the banks can rely on the micro-ATM infrastructure to reach the unbanked and under-banked regions of the country, thereby allowing the customer to access secured banking facilities at their doorsteps. The micro-ATMs deployed in the country have also grown at a fast rate to reach 0.42 million as of May 2021 from 0.28 million in May 2020. The development also shows the government's push towards digital technology for making banking services accessible to the masses.

In April 2020, volume and value of AePS transactions over Micro-ATMs increased by over 150% and 45% over March 2020. This indicates that the outreach of the BC and micro-ATMs payment mechanism spread widely during and post the lockdown in the rural areas of the country. Direct Benefit Transfer Schemes (DBT) announced by the central government has also encouraged the rural populace to actively avail services to receive the cash supports transferred to their Aadhaar linked bank accounts. Further, the support from telecom operators to set up last mile connectivity has also provided a boosted to the growth of micro-ATMs in the country.

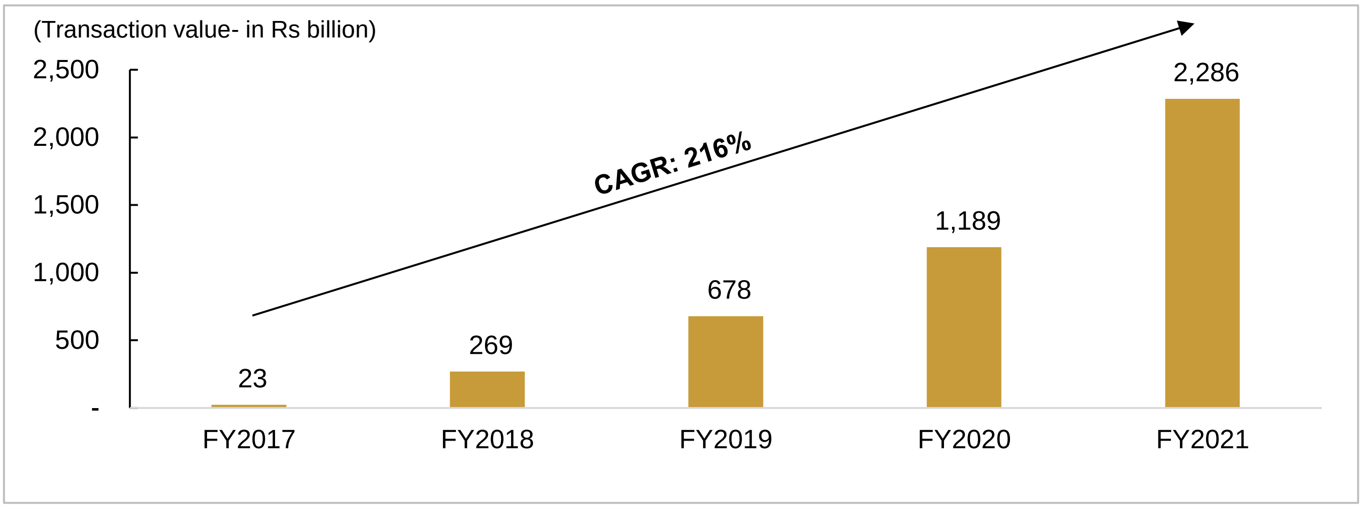
In the month of June 2021, value of AePS transactions over MATMs stood at Rs. 250 billion as compared to Rs. 147 billion in April 2020 and Rs 199 billion in June 2020, which indicates that customers continued to transact over micro-ATMs in greater measure and this is expected to drive growth in the coming years. Cumulatively, in fiscal 2021, transactions over micro-ATMs rose by 92% to touch Rs 2,286 billion as compared to the same period last year.

AePS transactions over micro-ATMs have zoomed between FY17 and FY21….



Source:RBI, NPCI, CRISIL Research

…And so have AePS transactions value over MATMs between FY17 and FY21



Source:RBI, NPCI, CRISIL Research

Growth Drivers

Under penetration of ATMs in rural areas presents a big opportunity for micro-ATMs

According to *"Report of the Committee to Review the ATM Interchange Fee Structure"* by RBI, the ATM access in India lags most of the emerging markets and large economies like Russia, China, South Africa, US, UK, etc. with only 21 ATMs being available per 100,000 adults in the year 2019. While the overall ATM access in India is low, the ATMs are also unevenly deployed across rural and urban areas. Close to 65% of population live in rural areas but only 20% of ATMs are deployed in rural centres and rest being in metro, urban and semi-urban centres. Thus, there is a huge requirement for ATM deployment in India to make it accessible to masses and make it even more available in semi-urban & rural centres where it is highly underserved. This pose a great opportunity for micro ATMs to cater to the growing demand and deepen penetration to reach the last mile of the country and address the challenges faced by rural population in fulfilling the cash withdrawal requirement.

Push for financial inclusion and increasing BC penetration to drive growth for micro-ATMs

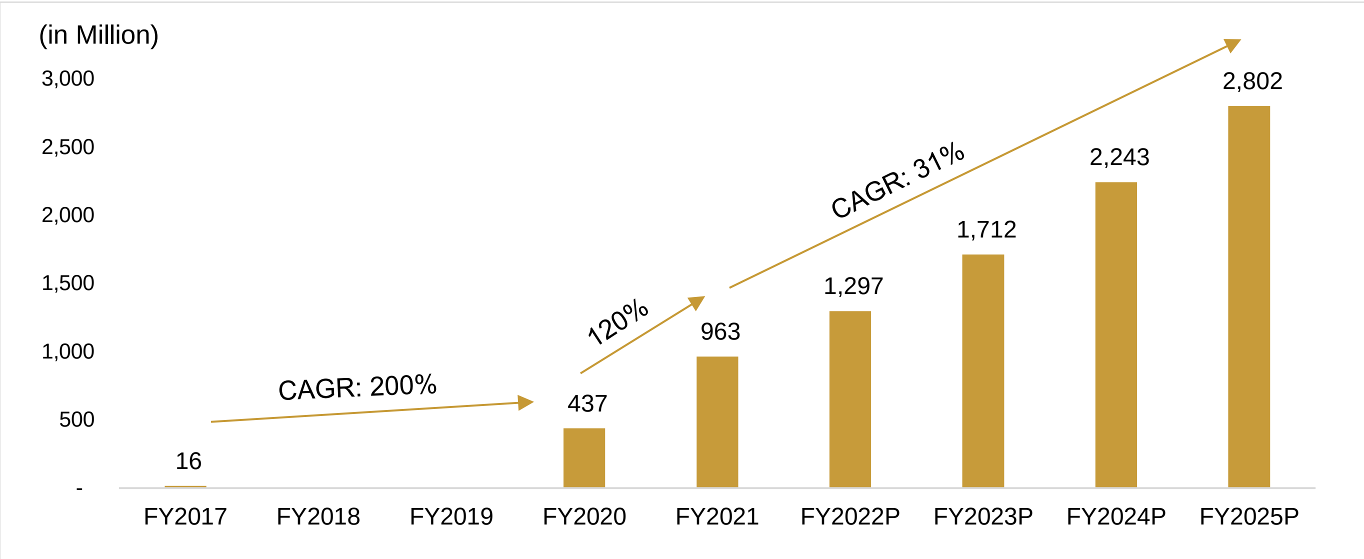
According to National Strategy for Financial Inclusion (NSFI) for the period 2019-2024, RBI has come up with slew of measures such as introduction of pilot Centres for Financial Literacy (CFLs) to strengthen financial literacy and training programmes for skill up-gradation for performance of BCs for effective delivery of financial services. The RBI has also advised all State/Union Territory Level Bankers' Committees (SLBCs/UTLBCs) in October 2019 to identify one district in their jurisdictions and allot it to a member bank with a significant footprint, with a view to expanding and deepening of the digital payment ecosystem in the country. The endeavour is to make the district 100 per cent digitally enabled within one year. Recently, Meghalaya government started distributing micro-ATMs to business correspondent agents (BCAs) to take banking services to door steps of people in under-penetrated regions. Similar initiative is being implemented in Karnataka, where MATMs was distributed to all Primary Agriculture Credit Cooperative Society (PACCS) in association with NABARD. CRISIL Research believes that continued focus of the

Central government and RBI on digital payments using Aadhaar to authenticate transactions over micro-ATMs and business correspondent outlets is expected to fuel the growth for deployment of MATMs in the coming years.

AePS transaction over Micro-ATMs to increase at ~31% CAGR between fiscal 2021-2026

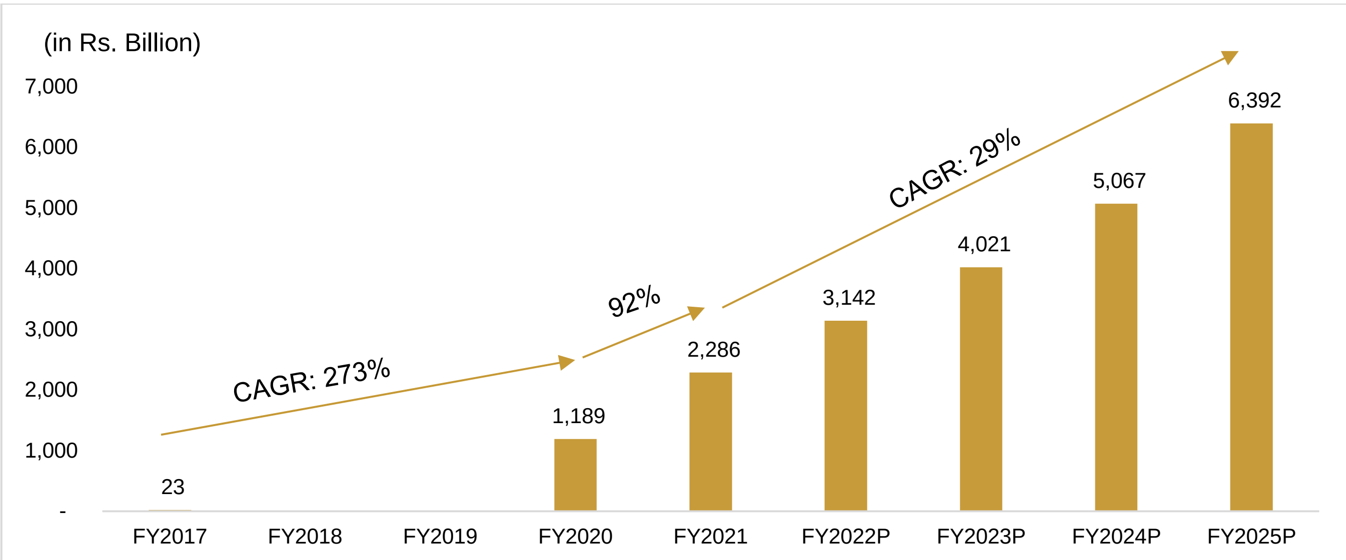
Going forward, CRISIL Research expects AePS transactions volume and transactions value over micro-ATMs to grow at a CAGR of 31% and 29% respectively between fiscal 2021 and fiscal 2026. The growth will be driven by increasing business correspondent and micro-ATM penetration to reach the remote regions of the country. Further, development of new use-cases and adoptions of steps such as biometric and iris authentication to curb transaction failures are also expected to drive transaction volumes and value in the coming years.

AePS transaction volume over MATMs to grow at 30% CAGR between fiscal 2021 and 2026



Note: P: Projected
Source: NPCI, CRISIL Research

Value of AePS transactions over MATM to grow at 29% CAGR between fiscal 2021 and 2026



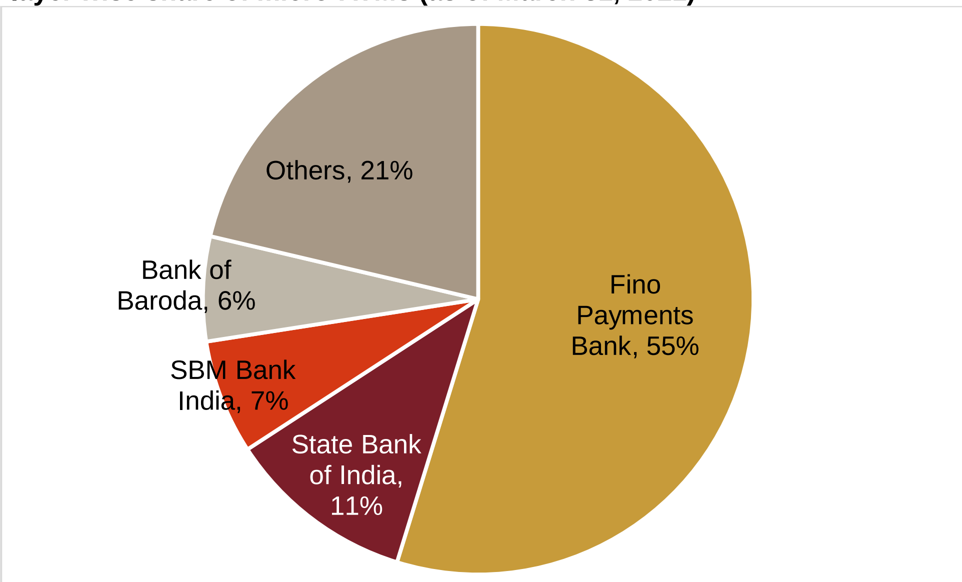
Note: P: Projected

Source: NPCI, CRISIL Research

Competitive landscape

As of March 31, 2021, there were 0.40 million micro-ATMs deployed in the country. With 0.22 million devices being deployed by Fino Payments Bank, it has the largest network of micro-ATMs in India. As of March 31, 2021, about 55% of the micro-ATM deployed in the country is from Fino Payments Bank followed by State Bank of India (SBI) at 11% and SBM Bank at 7%.

Player wise share of micro-ATMs (as of March 31, 2021)



Note: Others include data for all banks excluding Fino Payments Bank, SBI, SBM Bank and Bank of Baroda

Source: RBI, CRISIL Research

Revenue model for service providers

The micro-ATM service providers provide payment solution to the retailers to manage all forms of payments, including debit/credit cards, Bharat QR code, Aadhaar Pay and UPI. The retailers provide a one-time fee to the service providers for procurement of devices and a transaction processing fee to MATM/AePS service providers. In addition, some MATM service providers also earn a transaction processing fee from partners who use their API for facilitation of transactions. The cost for owning a micro-ATM/POS machine ranges between Rs 3,000 – Rs. 5,000 for the retailers, whereas other high-end conventional ATM terminals price ranges between Rs. 200,000 – 300,000. The transaction charges range between 0.25-0.40% percent of the transaction amount, which is paid to micro-ATM service provider whereas for a conventional ATM providers the commission for financial and non-financial transactions is Rs. 17 and Rs. 6 respectively.

Comparison between a ATMs and micro-ATMs

	ATMs	Micro-ATMs
Services	Cash withdrawals, checking account balance, Cash deposit in some advanced ATMs (with cash dispenser)	Cash in and cash out facility through a Business Correspondent agent, facilitating funds transfer and bill payments

Authentication and Verification	Customers are authenticated through debit / credit card PIN	Customers are authenticated using AADHAAR based system and Biometrics
Set-up costs	Set up cost is higher owing to land clearances requirement and rentals and cost of machines	Micro-ATMs devices are hand held devices and have a lower cost of deployment
Deployment	ATMs are generally deployed on-side (inside Banks) or off-site (high footfall areas like shopping malls, petrol pumps and airports)	Micro-ATMs can be deployed at local retail shops to act as a touchpoint on behalf of the banks

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