FROST & SULLIVAN

ASSESSMENT OF CASH MANAGEMENT SERVICES MARKET IN INDIA

– Support for an Initial Public Offering (IPO)

October 25th, 2021

Frost & Sullivan

Key Findings and Highlights

- *India's real gross domestic product (GDP) is expected to increase up to 9.5% by 2021 making it the fastest growing economy in the world.*
    - *The projected growth in the services sector, increased vaccinated drive leading to opening up of the economy, implementation of postponed investment decisions and addressing of pent-up demand via spending.*
    - *India's GDP is expected to grow 7.9% per annum between 2020 to 2024 compared to global growth of 2.5% With the rising middle-class income, discretionary spending will increase, which in turn will lead to increase in transactions, cash volume etc. This will further be acerbated by the increasing working-age population, with the nation estimated to add 200 million people between 2013 and 2030 who are eligible to work.*
- Money supply is an important factor not only for acceleration of the process of economic development but also for the achievement of price stability in the economy.
    - *Reserve money (M0) and narrow money (M1) follow similar trend, and broad money (M3) had no major fluctuations.*
    - *When compared to the same period last year, the M3 money supply increased by 6.7 percent in the first five months of 2021. This is the most significant increase in seven years.*
    - *Liquidity operations by the central bank and the expansion of its domestic balance sheet drove the increase in M3.*
    - *Increase in M3 represented the increased cash withdrawals by people during the various lockdown periods to meet requirements and hence the general growth of cash transactions.*
- Cash circulation normally spikes during times of heightened economic activity, with people needing more money for transactions. But due to COVID-19, rising economic uncertainties forced people to hoard more cash in the first four months of the calendar than they had done in the entire 2019.
    - *Increase in CIC augurs well for the companies engaged in cash management industry.*
    - *CIC in India has grown at approximately 10-12% year-on-year over the last 10 years to reach INR 28 trillion in FY 21. This jump in CIC is the sharpest increase barring the post-demonetization surge. India's CIC/GDP ratio in 2020, which stood at ~ 12%, is the country's largest since Independence. Also the CIC/GDP ratio for India is higher than that of major economies such as China (~8%), Brazil (~5%), USA (~8%), Singapore (~10%) and Germany (~9%).*

- *Cash velocity, measured by ATM withdrawals is at 1.5x of CIC, much lower than other countries, indicating a significant headroom for growth in cash circulated through ATM / banking systems.*

➢ *Despite an increase in digital transactions in India, cash still accounts for most payment transactions. Roughly 89 percent of all transactions (p2p) in India by volume were anticipated to be cash-based in 2020*

- *RBI stressing on promotion of financial inclusion and extension of banking network to the remote areas of the country, has progressively led to an increase in banking penetration.*
- *The growth of the informal economy is significantly connected with cash usage, and this is a fundamental driver of India's persistent reliance on cash.*
- *The increase in ATM deployment, across all regions except metros, indicates a reliance on cash and cash as the engine of economic growth.*
- *Migration to Multi-vendor ATM software (MVS) from traditional OEM software allows seamless remote security updates by banks through the cloud. MVS enables banks to market personalized as well as new products to customers across its ATM network in flexible and fast manner thereby making ATMs a critical component of a bank's digital strategy.*
- *Increased usage of ATMs for non-financial transactions such as balance enquiry, cheque book request, payment of taxes, funds transfer, etc. indicates that day-to-day usage extends beyond cash withdrawals. For instance, with respect to SBIs brown label ATMs, cash transactions account for 60% of the overall transaction volume and the remaining 40% is used for non-cash transactions.*
- *ATM deployment contributes to greater financial inclusion by expanding the reach of banking services, particularly in semi-urban and rural areas.*

➢ *India's financial sector is primarily a banking sector, with commercial banks accounting for more than 64% of the financial system's total assets and will continue to grow at a healthy pace driven by significant under penetration of financial products such as ATMs and debit cards.*

- *ATMs will have a higher growth rate than that of bank branches owing to the lower cost of operating an ATM, ability of ATMs to mimic most of the basic functionalities of a bank branch, and the potential increase in the adoption of ATMs to alleviate the Capex pressure faced by banks.*
- *While debit cards have increased in number, their usage at POS terminals has decreased. Hence, debit cards find increasing usage at ATMs leading to increase in cash withdrawals.*

- *Rising internet and smartphone penetration, while possessing the ability to drive digital transactions, serve as key functions to enable banking penetration in rural areas and hence can drive the growth of financial transactions in such areas.*

- *While digitization initiatives have led to the increase in card and UPI payments, cash payments are still expected to dominate until 2025 with a proportion of 61% of the overall payment volume. The proportion of cash payments are not expected to drastically change over the next 10 years, mostly owing to the fact that the majority of the small payments are in cash and are these are unlikely to be affected by the shift to digital.*
  - *India's organized retail market is increasing at a 20-25 percent annual rate and is expected to contribute to 30% of the market share by FY 2025.*
  - *India has approximately 3 million retail points which are currently addressable for cash management services of which the organized retail touch points account for about 453 thousand.*
  - *In 2020 Cash on Delivery (COD) constituted more than 65% of all e-commerce payments, indicating the significance of cash with respect to payments. Also the share of COD payments is more pronounced as we move from metros (~50% COD) to lower tiers such as tier 2 (~70% COD) and tier 4 regions (~90% COD). As the e-commerce penetration increases in these lower tiers, the share of COD payments is also expected to increase correspondingly.*
  - *Consumers prefer cash due to behavioral reasons which is unlikely to change with improvement in digital payment infrastructure.*
- *India is world's third largest ATM market in terms of number of installed ATMs and only large market which is growing. With the under penetration relative to other countries, India is expected to be fastest growing ATM market amongst the large markets in the world*
- *The number of ATMs in India will grow from 255k in FY 21 to 365k in FY 27, driven by pent-up demand and the need to address under-penetration in SURU, as well as a shift from capex to opex models for banks with additional upside expected given the increase in interchange.*
- *Regulatory Update & Policy Implications*
  - *Introduction of RBI Operating Standards: In 2018, RBI raised the compliance requirements for Cash-in-Transit. Key requirements include mandatory CCTV, GPS enablement, geo-fencing, tubeless tires for vehicles and minimum crew strength of 5 with mandatory SRO certification. Implementation of standards will result in an increase in realization of between INR 2,800-3,000 per compliant ATM per month*

- *Increase in Interchange: The Reserve Bank of India (RBI) approved an increase in the interchange for financial transactions through automated teller machines (ATMs) from INR 15 to INR 17 and from INR 5 to INR 6 for non-financial transactions effective August 1st, 2021. The ATM interchange fee is paid by the bank that issues the card to the bank whose ATM is used to withdraw cash. The increase in interchange is expected to spur ATM deployment across the country especially particularly from WLAs and in SURU areas with low penetration.*
- *Implementation of Cassette Swap Norms: RBI has extended the timeline for implementation of cash replenishment through a 'cassette swap' model in a phased manner in all ATMs till March 31st, 2022. The implementation of cassette swap is estimated to increase realization per ATM by INR 1,000 per month. The Reserve Bank of India (RBI), in an effort to increase compliance, has been introducing multiple operating norms for cash management since 2018.*

- *Cash management services comprises of three main services, namely: ATM cash management, Retail Cash Management (RCM) and Dedicated Cash Vans (DCVs). The cash management market in India is estimated at USD 27.7 billion in FY 2021.*
- *The ATM cash management market size in India is estimated at a size of INR 1432 crores in FY 2021. This is expected to grow at a CAGR of 20.7% to reach a potential market size of INR 4434.7 by FY 2027. The increase in the number of ATMs, a shift towards brown label ATMs (BLA model), and the potential for increased outsourcing in the upcoming years are key drivers for the projected growth of this market.*
- *The RCM market is estimated at INR 675 crores in FY 2021 and is projected to reach a market size of INR 2043 crores by FY 2027. The growth in the organized retail sector as well as the corresponding outsourcing potential is expected to be key drivers for the growth of RCM*
- *The DCV market in India is estimated at a value of INR 665 crores in FY 2021 and is projected to reach a market size of INR 1418 crores by FY 2027 and will grow on the backing of the potential increase in compliant vans and outsourcing to compliant players.*
- *The ATM product market size is estimated at INR 645 crores in FY 2021 and is expected to reach a value of INR 2480 crores driven by overdue replacement cycles of existing ATMs, increased deployments owing to demand, and increase in the utilization of cash recyclers.*
- *The Annual Maintenance Contracts (AMC) market is expected to grow from INR 734 crores in FY 2021 to INR 1314 crores in FY 2027 with a CAGR of 10.1%, primarily driven by increase in the ATM stock and increase in realizations.*

- *The market size for BLAs is estimated to be INR 4128 crores in FY 2021 and is estimated to reach over INR 10800 crores by FY 2027. While BLAs offer significant convenience to the banks in terms of management, a major driver for the growth for this market is the upgrade / refresh cycle for ATMs expected in the next 3 years which banks will likely do on an outsourced basis*
- *The Pure MS ATM market is valued at INR 561 is expected to reach INR 615 crores by FY 2027.*
- *The MVS market is expected to grow from INR 200 crore in FY 2021 and reach a value of INR 273 cores by FY 2027.*
- *The total available market (TAM) for cash management (ATM cash management, RCM, DCV), product sales (including AMC), Managed Services (MS ATMs and BLA), Multi-vendor Software (MVS) and Remote Monitoring stood at INR 8,531crores in FY 21 and is estimated to reach a size of INR 21,412 crores in FY 27 growing at a CAGR of 16.58%.*
- *The competitive milieu for the ATM managed services in India is dominated by 10-12 companies ranging from software conglomerates to financial technologies solutions to ATM manufacturers.*

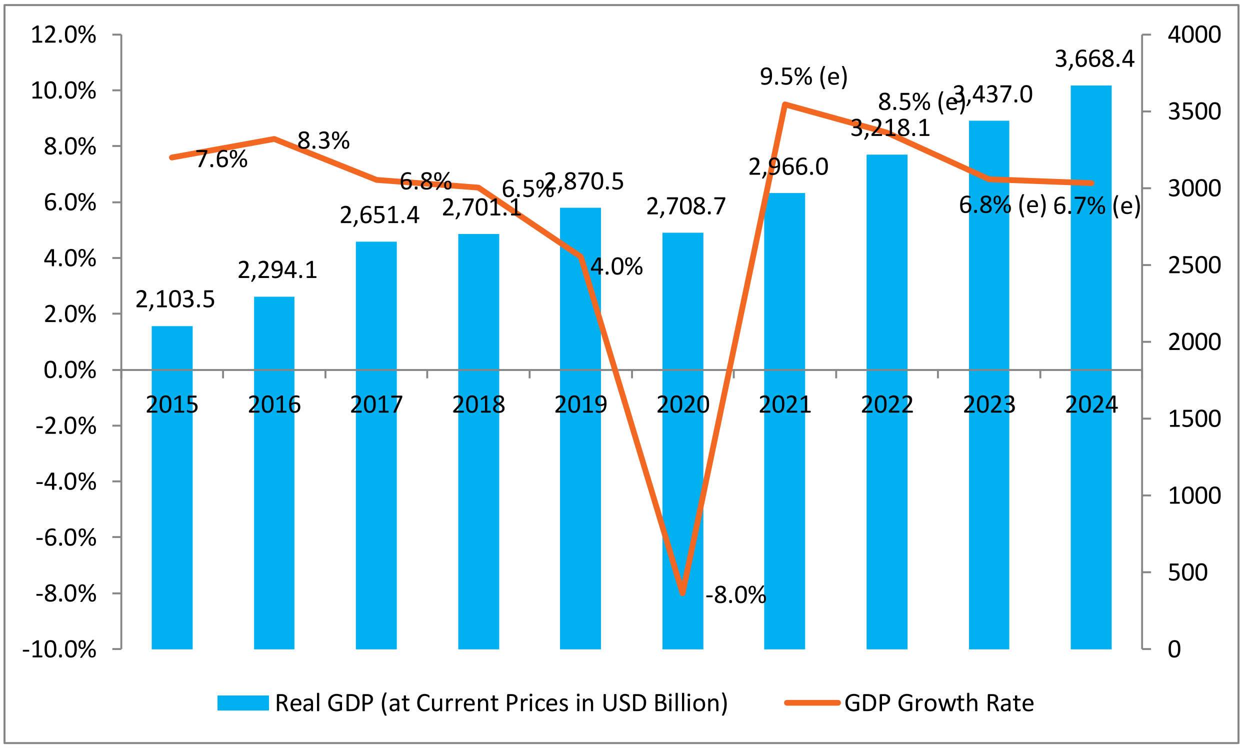
- *The Indian cash management market is also entering a consolidation stage, with a majority of the market share contributed by the top two players, driven by strict MHA guidelines, reliability of scale players, and smaller players exiting the market owing to challenges in maintaining profitability.*

1.1. India's Economic Growth – Fastest Growing Economy in The World

As per the estimates from the International Monetary Fund (IMF)[1], India's GDP is forecasted to grow at a rate of 9.5% in 2021, the highest among the G20 countries. The world economy is expected to rise by 5.9% in 2021 and 4.9 percent in 2022. India's growth rate is greater than that of China's (8.0%), which comes in second. India is expected to register a GDP growth of 7.9% per annum between 2020-2024, compared to a global growth of 2.5% for the same period.

[1] IMF World Economic Outlook, October 12, 2021

Exhibit 1: GDP Growth of India, USD Billions, 2015-24



Note: (e)- Estimated projections

Source: IMF, Frost & Sullivan Analysis

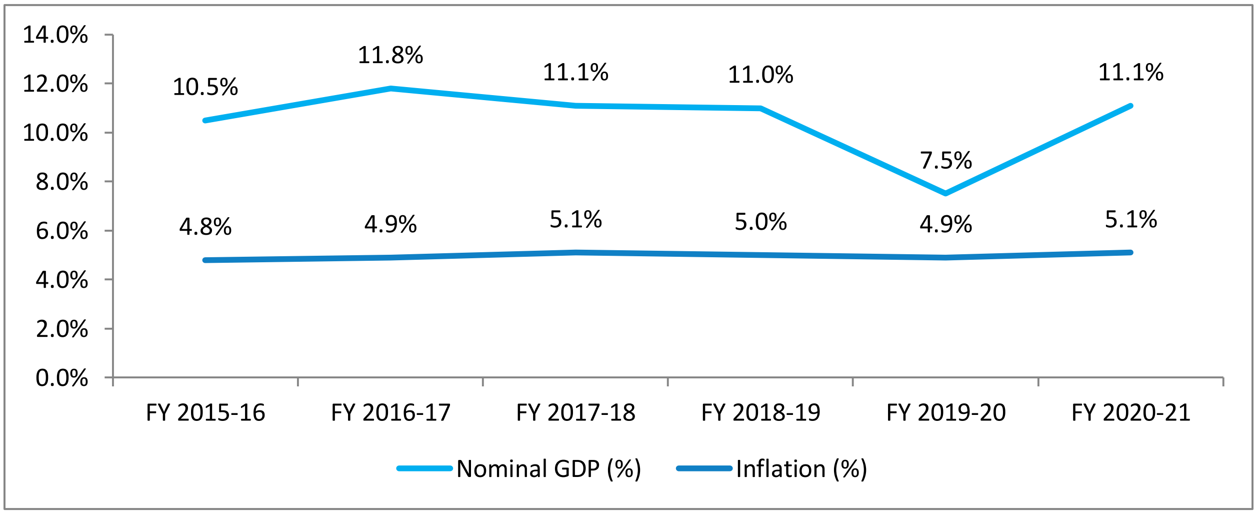
Market Drivers for Economic Growth:

Growth of Middle Class Income: The middle-income category is projected to grow rapidly between 2018 and 2030, accounting for ~78% of the total income of the population by 2030 up from ~54% in 2018. Increasing disposable income will lead to more discretionary expenditure, which will lead to a rise in transactions, cash volume, and so on.

Addition to Working Population: India's working-age population share and size is expected to grow between 2015 and 2030, in contrast to China's contraction. A growing working-age population share and size implies more savings and tax revenues that can help fund investments across the country. The proportion of the working-age population is expected to increase from 61% in 2011 to 65% in 2036 with India adding 12 million people to the working population each year, thereby contributing to the nation's economic growth via the number of jobs created and utilized.

Government Policy Support: Several initiatives and measures have been taken by the government to attract investment into the economy, including reduction in tax rates, focus on improving the capacity to spend for the rural sector, on infrastructure creation and inviting foreign investment.

Exhibit 2: Nominal GDP & Inflation Growth (in %)



Inflation has remained stable at ~5.0% between FY16 – FY20 while Nominal GDP Growth has averaged ~11.0% between FY16 – FY19 with FY20 witnessing a decline primarily on account of Covid-19.

Source: RBI, Secondary Sources

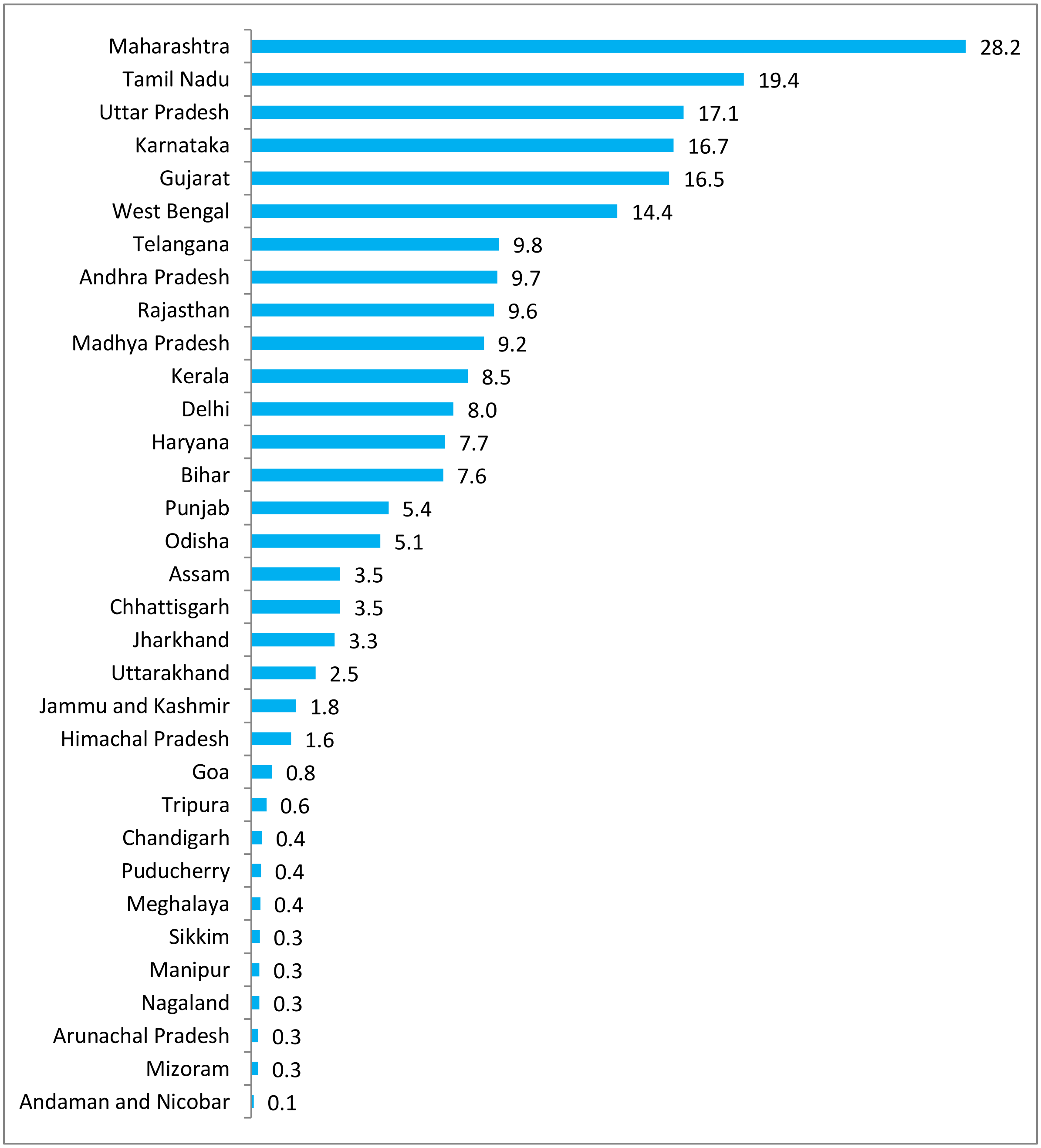
1.2. State wise GDP

As per the below chart, Maharashtra, Tamil Nadu, Uttar Pradesh, Karnataka and Gujarat are the top five states with the highest GSDP in 2019-2020. These states alone accounted for 46.6% share of India's economy in 2020. In addition to this, the five states comprising South India together account for close to 30.0% while the eight states comprising North-East India account for 2.8% share.

Uttar Pradesh is the state with third highest GDP and is the most populous state in the country, but still has a lower penetration in terms of ATMs at 10 ATMs per 100,000 persons compared to a national average of 22 ATMs per 100,000 persons as of 2021. Similarly, states like Bihar and West Bengal that have a high population and GDP contribution have lower ATM penetration - 7 ATMs and 13 ATMs per 100,000 persons respectively, compared to states like Maharashtra, Karnataka and Tamil Nadu.

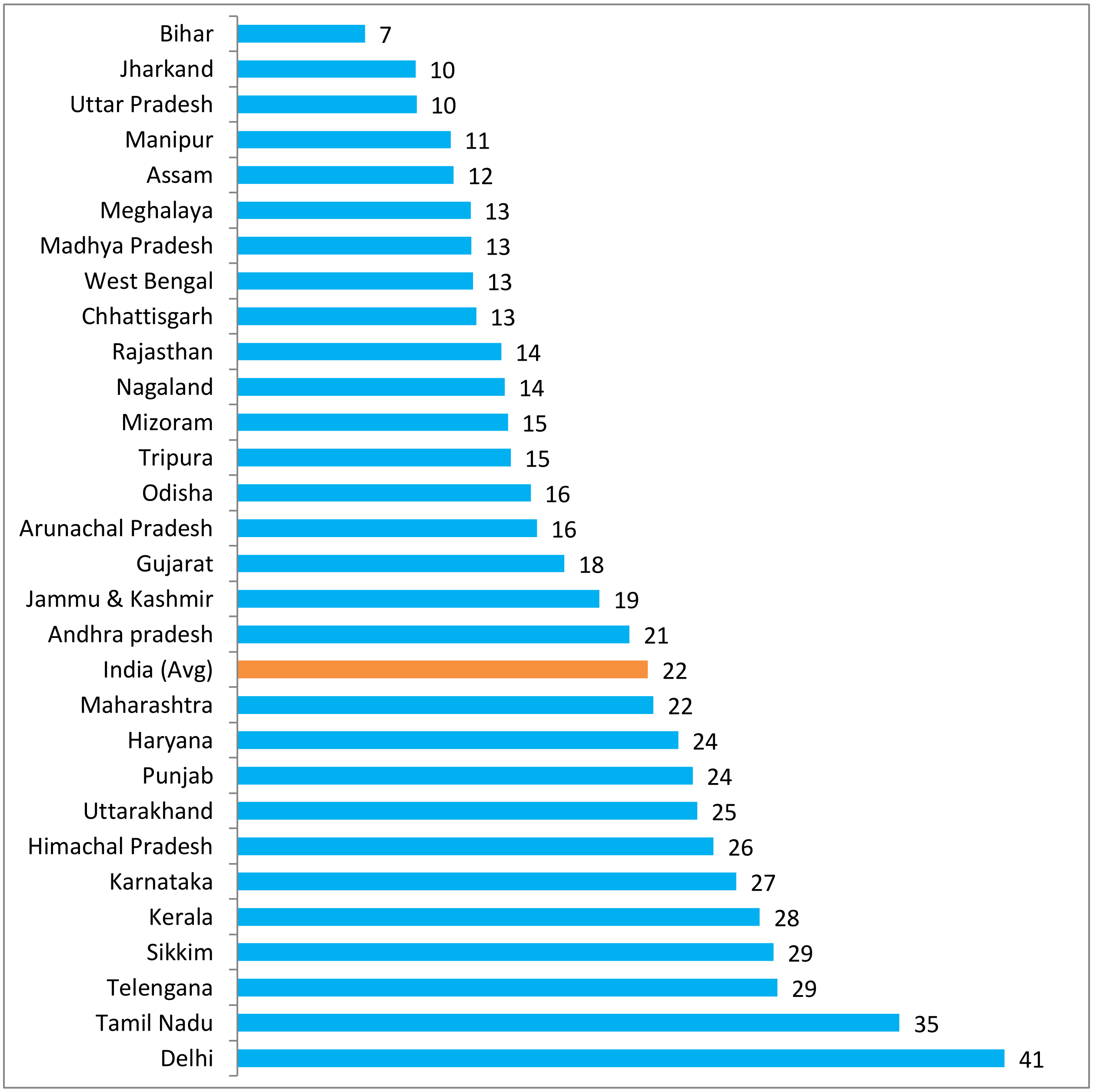
With the potential financial inclusion measures and the focus towards increasing ATMs in the underpenetrated regions by the Government, there is a greater scope for ATM deployments in these states.

Exhibit 3: State-wise GDP of India, 2020 GSDP Nominal (INR Trillion)



Source: MOSPI, IMF

Exhibit 4: State-wise ATM penetration, 2020 (ATMs per lakh individuals)

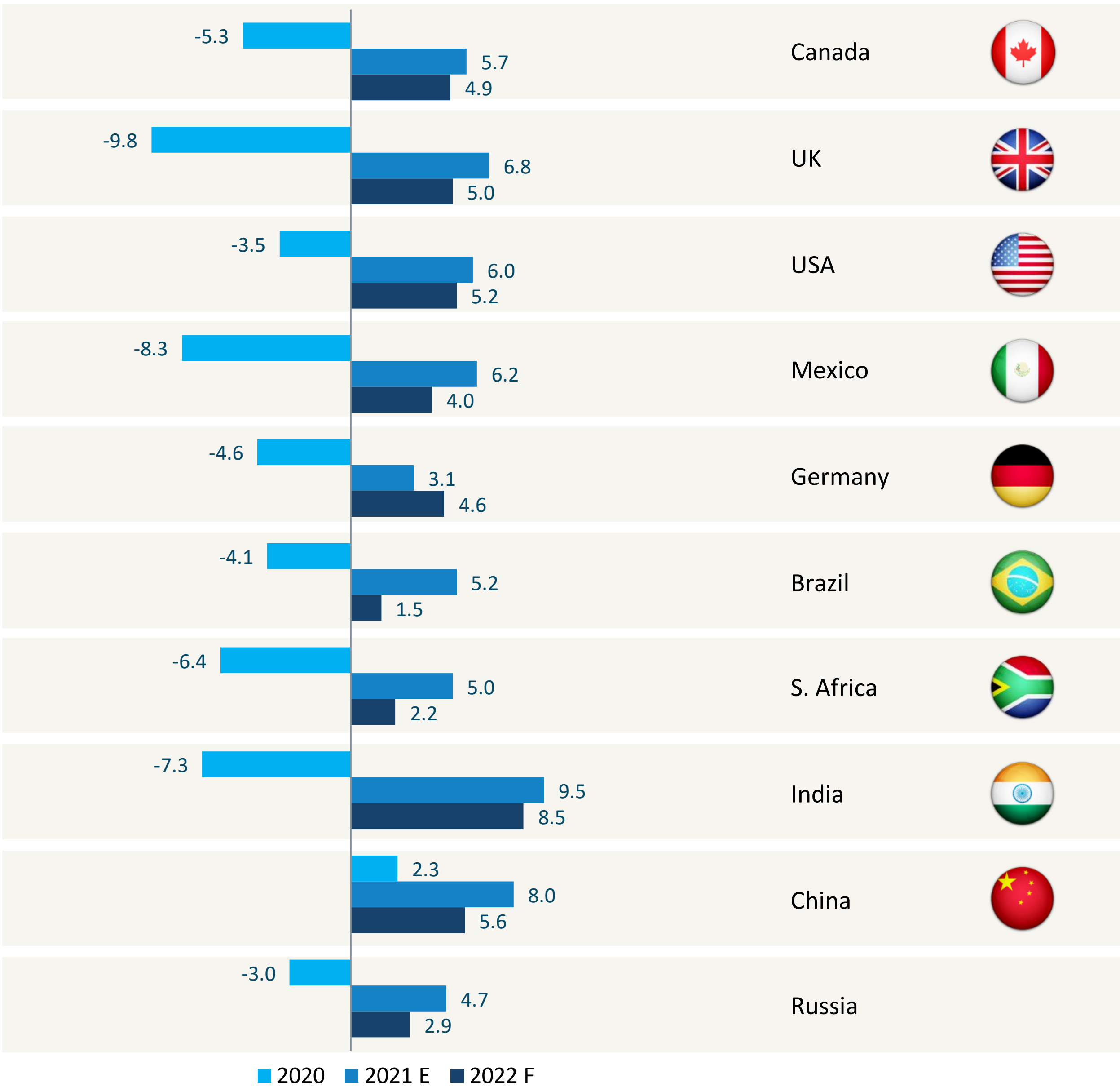


Source: Niti Aayog, SDG Data

1.3. India Accelerated Economic Rebound

The COVID-19 crisis had a severe impact on all major economies including India in 2020 and consequentially the GDP growth. With the increased vaccination drive and recovery owing to the opening up of the economy, India is expected to become the fastest growing economies globally in the medium-term.

Exhibit 5: GDP Growth, Key Countries, Global (2019-2022)



Note: GDP Growth rates are expressed in percentage; E- Estimates. F- Forecast

SOURCE: IMF World Economic Outlook, October 12, 2021

Key Growth Drivers

1.4. Demographic trends in India - Rising Middle Class Income Levels

India's proportion of middle-class households is expected to continue expanding in the next decade, providing impetus to consumer demand and expenditure. The upper and lower middle class income groups are projected to have the highest growth and expected to account for 43.5% and 34.2% of the population by 2030. With growing disposable income, discretionary spending will increase, which in turn will lead to increase in transactions, cash volume etc.

Exhibit 6: Share of Households by income Group, India, 2005, 2018, and 2030

Annual income and income grouping	219 million households	293 million households	386 million households
Above $40,000 (above Rs. 2.8 million) upper middle income	High 0.5%	High 2.7%	High 7.5%
$8,500-$48,000 (Rs. 595.5 thousand-2.8 million) upper middle income	Upper mid 7.3%	Upper mid 20.8%	Upper mid 43.5%
$4,000-$8,500 (Rs. 280.3-595.6 thousand) Lower Middle Income	Lower mid 23.3%	Lower mid 33.1%	Lower mid 34.2%
Below $4,000 (Rs. 280.3 thousand) Low income	Low 68.9%	Low 43.3%	Low 14.8%
	2005	2018	2030

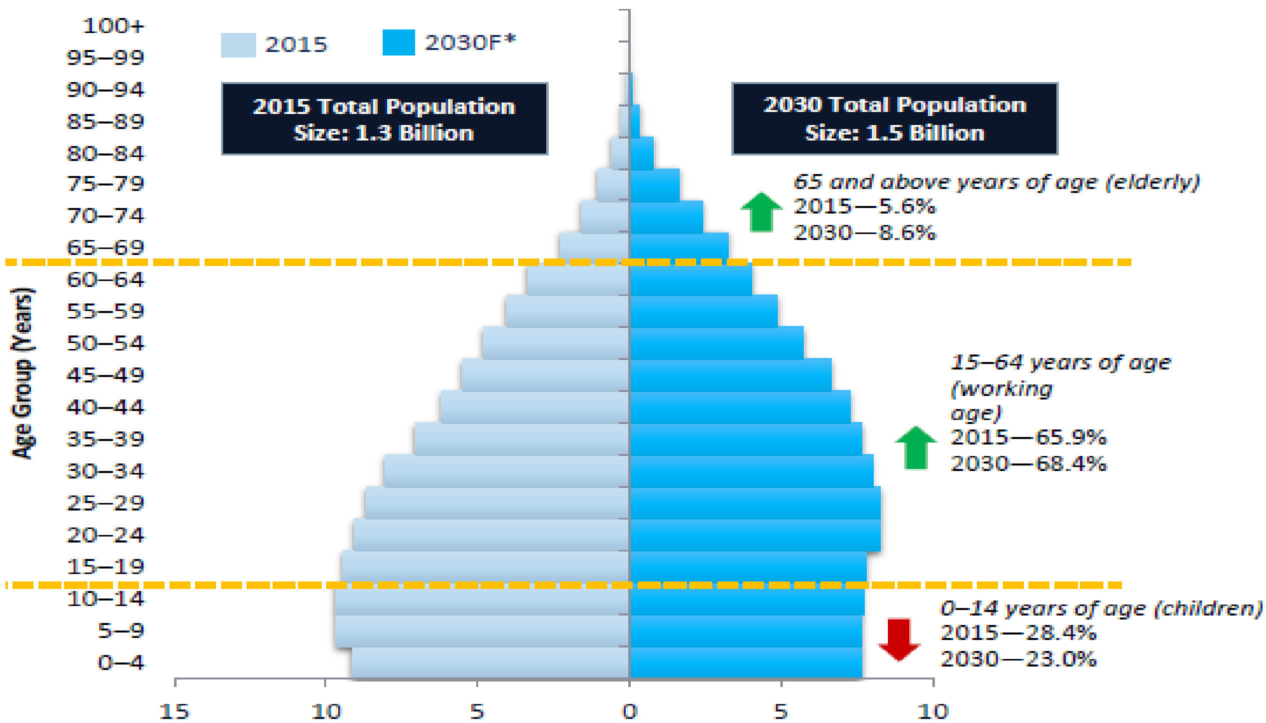
Note: Data forecast and projections as of Sep 2021 *Source: Frost & Sullivan, Secondary Sources*

1.5. Increase in Working-Age Population

India's working-age population share and size is expected to grow between 2015 and 2030, in contrast to China's contraction. A growing working-age population share and size implies more savings and tax revenues that can help fund investments across the country

India has the highest addition in the working age population segment with an estimated number of 200 million people to be added between 2013 and 2030. India is currently at a stage of demographic transition with a substantial percentage of the population comprising of youth. The proportion of the working-age population is expected to increase from 61% in 2011 to 65% in 2036 with India adding 12 million people to the working population each year.

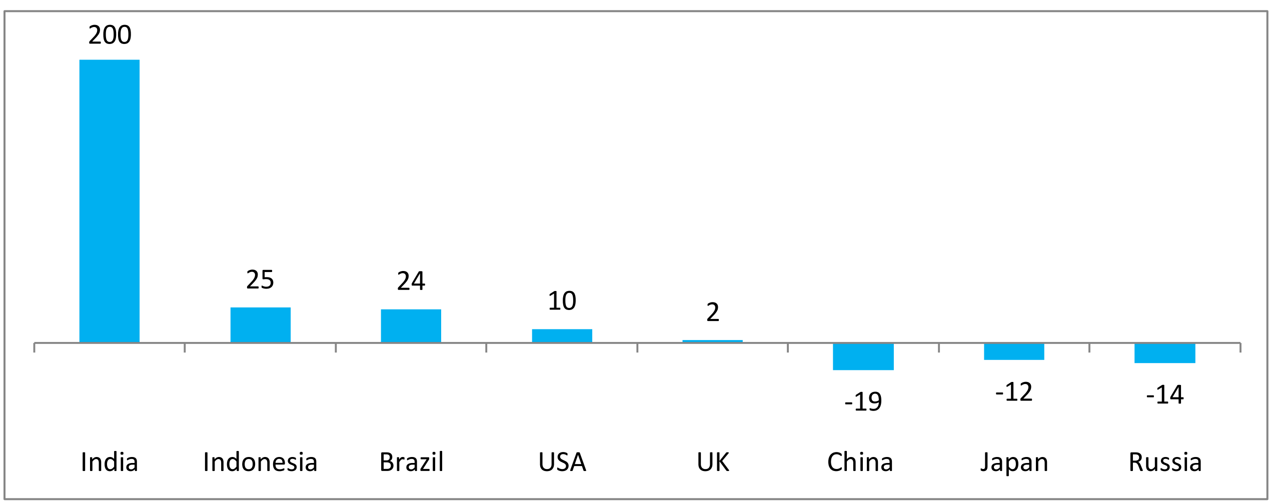
Exhibit 7: Populaton age structure analysis, India, 2015-2030 (%)



Note: Data forecast and projections as of Sep 2021

Source: Frost & Sullivan, Secondary Sources

Exhibit 8: Addition to working age population (15-64), in millions, 2020



Source: IMF, World Bank

1.6. Macroeconomic Factors and Money Supply

Analysis of Macroeconomic Factors and Money Supply

Money supply is the amount of money in circulation in the economy at any point of time. It not only includes the currency and coins in circulation, but also includes demand and time deposits of banks, post office deposits and such related instruments.

Valuation and analysis of money supply with reference to the macro economic factors is useful in determining the monetary policy for the economy, thereby, achieving the socio economic objectives of price stability, employment, exchange regulation, and economic growth.

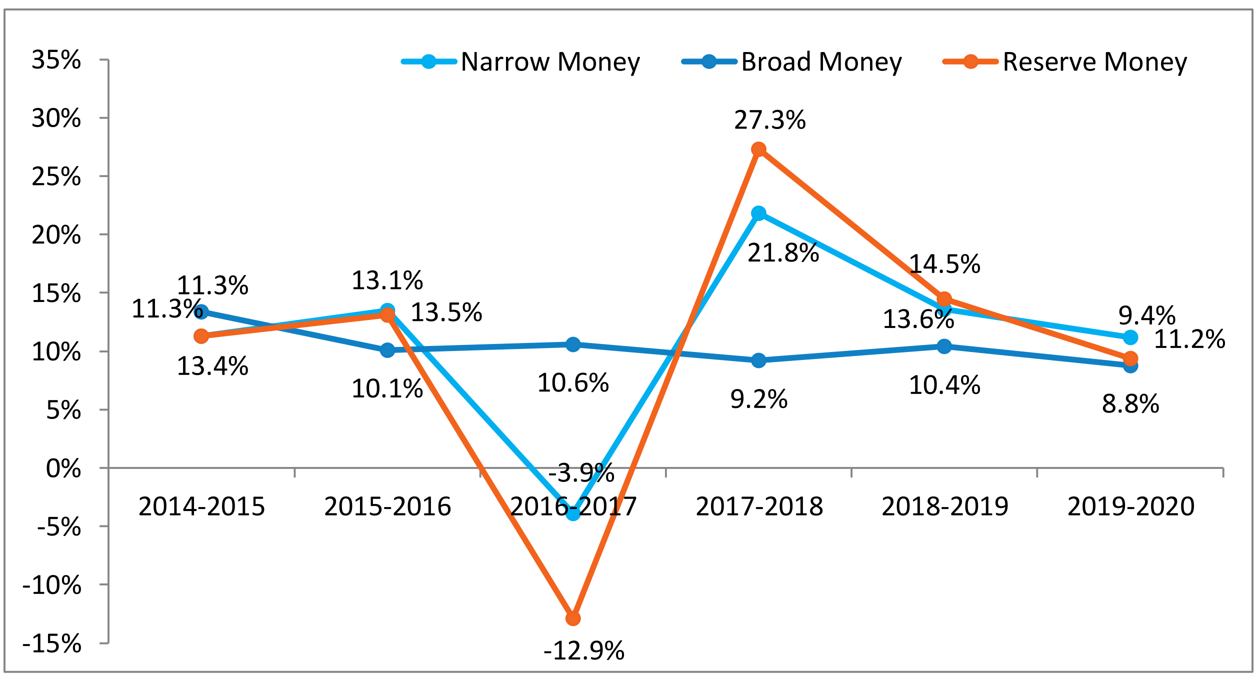
In India, the Reserve Bank of India is the sole authority to frame monetary policy, in order to regulate cost and supply of money.

Reserve Money (M0) is the sum of Currency in Circulation, Bankers' Deposits with RBI, and Other Deposits with RBI

Narrow Money (M1) is the sum of Currency with the Public, Demand Deposits with the Banking System, and Other Deposits with RBI.

Broad Money (M3) is the sum of Currency with the Public, Current Deposits with the Banking System, Savings Deposits with the Banking System, Certificates of Deposits issued by Banks, Term Deposits of residents with the Banking System, Call/Term borrowings from 'Non-depository' financial corporations by the Banking System, and Other Deposits with RBI.

Exhibit 9: Growth of Narrow, Broad and Reserve Money, (in %) FY 2014-2020



Source: RBI

The above figure charts the trend of Money Supply from 2015 to 2020 comprising Reserve Money (M0), Narrow Money (M1), and Broad Money (M3). As per the trend, reserve money and narrow money follow similar trends and broad money had no major fluctuations.

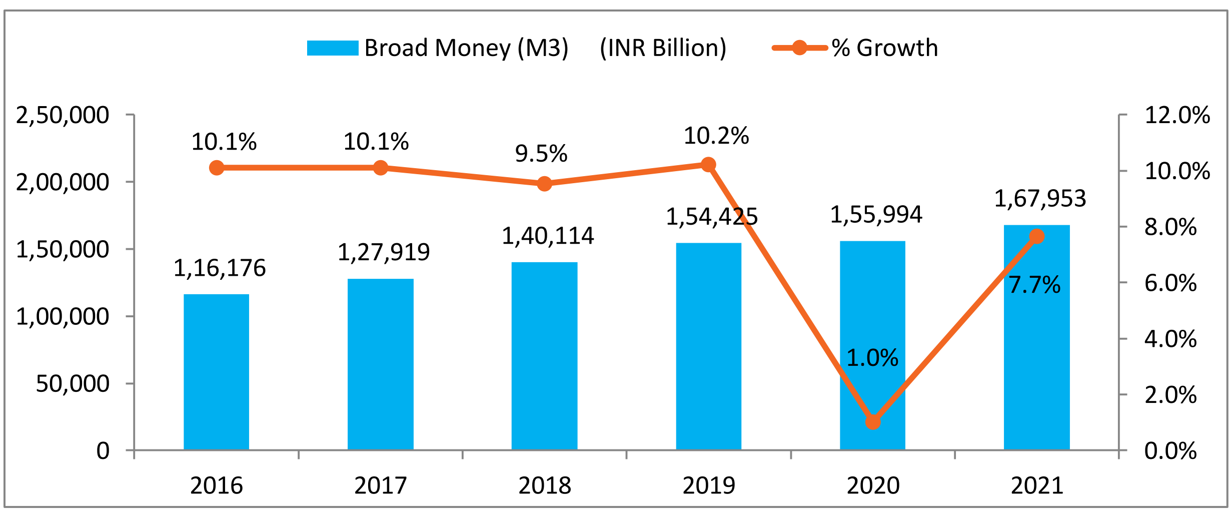
The currency held by the public in 2020 climbed by 8.2% since the end of March for the same year. When compared to the same period last year, the broad money supply expanded by 6.7 % in the first five months of 2020. This is the most significant increase in seven years. Reserve Money has grown 15.2 percent year on year (YoY) in 2020-21, compared to 11.1 percent a year before. Currency in circulation (CIC) from the component side (Banker's deposit with RBI and other deposit with RBI) drove Narrow Money expansion in 2020-21, which saw a boom in the post-COVID-19 pandemic period. The major driver for increase in Reserve Money during 2020-21 was Net Foreign Assets (NFA), attributable to the Reserve Bank's net purchases from Authorized Dealers (ADs).

Money Supply Growth in India

M3 witnessed a growth of 10.2% in 2019 as compared to the previous year, but fell to a 1% growth in 2020 owing to the impact of COVID-19 wherein cash withdrawals and transactions were severely impacted by lockdown restrictions. A rise in money supply is viewed as a leading indicator of growth in consumption and business investments. Compared to last year, the M3 money supply increased by 6.7 percent in the first five months of 2021. This is the most significant increase in seven years.

The recent increase in money supply represents increased cash withdrawals by depositors to satisfy their requirements during the lockdown period, as well as to protect themselves against wage cuts or job losses. Two factors contributed to the rapid expansion of the money supply during the COVID period. First, the banking sector's net foreign exchange assets have increased. Second, there has been a significant rise in net bank credit to the government, especially by commercial banks. As the pandemic situation subsides, money supply is expected to stabilize and grow in line with the expected financial health of the economy.

Exhibit 10: Growth of Broad Money in India, 2016-21



Source: RBI, Secondary Sources

a. Money supply, GDP at Current Prices and Inflation between 2015-2021

In the following chart, the pattern of direct relationship between Money supply, GDP at current prices, and inflation can be tracked clearly throughout the given period (2015-16 to 2020-21).

The relationship between money supply and inflation can be given as the total value of payments (MV), which is equal to money value of national output (PY), this can be put in an equation as:

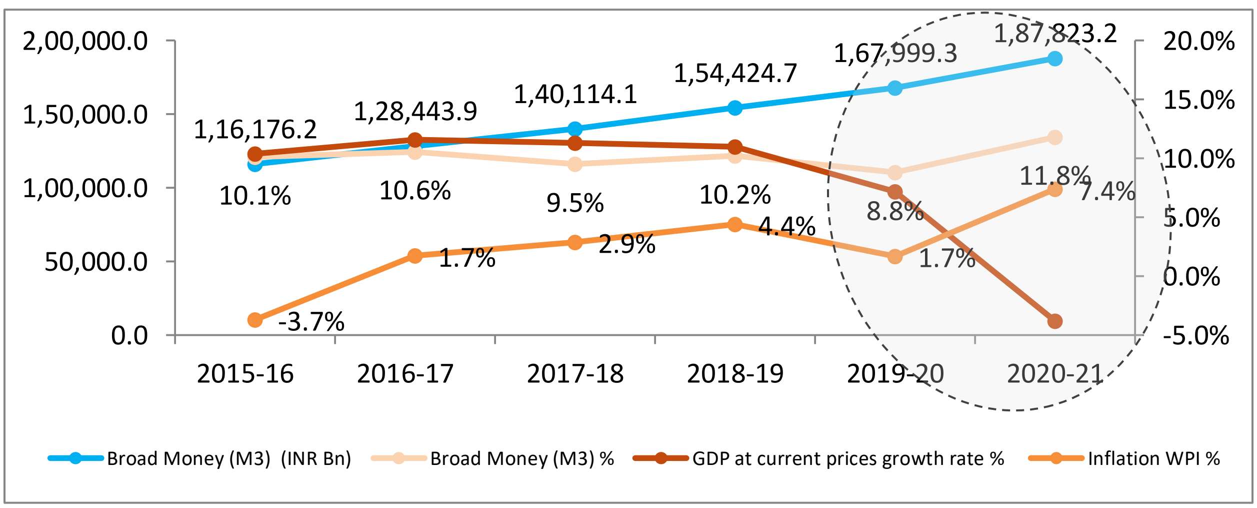
MV=PY where,

M= Money supply | V= Velocity of circulation of money | P= General Price level | Y= Real National Income (GDP at current prices)

Thus, the relation between money and prices is historically associated with the quantity theory of money (as mentioned above). There is strong realistic evidence of a direct relation between money supply growth and long-term price inflation, at least for rapid increases in the amount of money in the economy.

The stark contrast to the fall of GDP and rise in inflation owing to COVID-19 saw GDP at current prices fall up to -3.8% in FY 2020 and WPI inflation rise to 7.4% YoY, which is a 12 year high. However the money supply has witnessed a positive growth owing to cash deposits and general stockpiling of cash. Liquidity operations by the central bank and the expansion of its domestic balance sheet drove up money supply last year. While the inflation rates have risen in the last year, with the potential increase in GDP levels and decrease in the velocity of money as a consequence.

Exhibit 11: Money supply, GDP at Current Prices and Inflation between 2015-2021

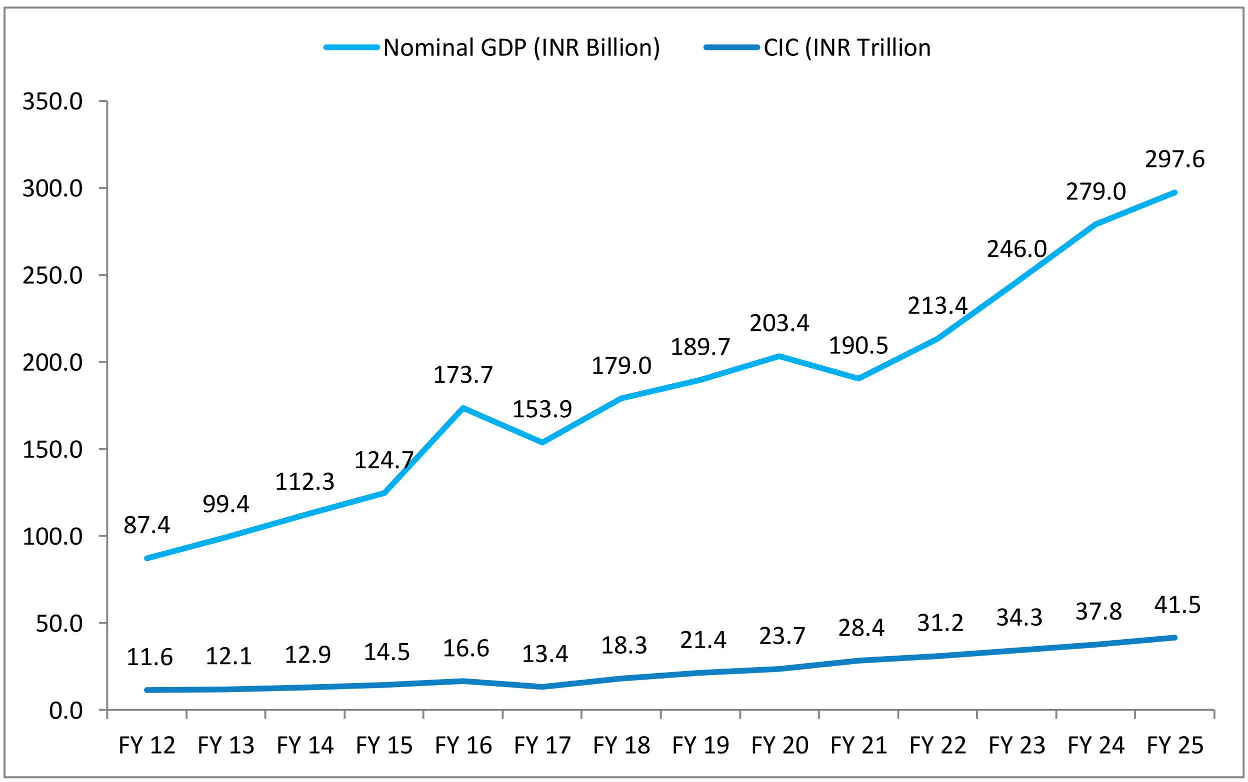


Source: RBI, IMF, World Bank, Secondary Sources

b. Currency in Circulation and its impact on Economy

The cash in circulation (“CIC”) is the total of cash with banks and currency with the public. The CIC in India has grown at approximately 19.8% between March 2020 and March 2021 to approximately INR 28.4 trillion despite Covid (As on August 2021, CIC in India stood at INR 29.5 trillion). The growth in CIC was 19.8% despite Covid in the last fiscal year while CIC/GDP reached 15% in FY21. Macroeconomic deviations (GST, demonetization, Covid, etc.) have not impacted CIC growth in the long run. Study of global analogs and RBI’s own view of CIC suggest that there is little or no correlation of CIC to digital payments penetration and that CIC will grow in line with nominal GDP. In fact, CIC as a percentage of GDP grew by 3-5 percentage points as digital payments grew by more than 50% in most economies with high digital payments penetration China is an exception where the growth of the Fintech industry was aided by a deregulated environment. However, even in China, although CIC/GDP dropped, CIC grew in absolute terms by 5% amid this period of disruption. Going forward, CIC is expected to grow at ~10%+ to reach ~INR 41.5 trillion by FY25 in India.

Exhibit 12: Nominal GDP Vs Cash in Circulation, (INR Trillion) FY 2012-2025



Note: 1. CIC in India, as on 20th August 2021, is valued at INR 29.5 trillion

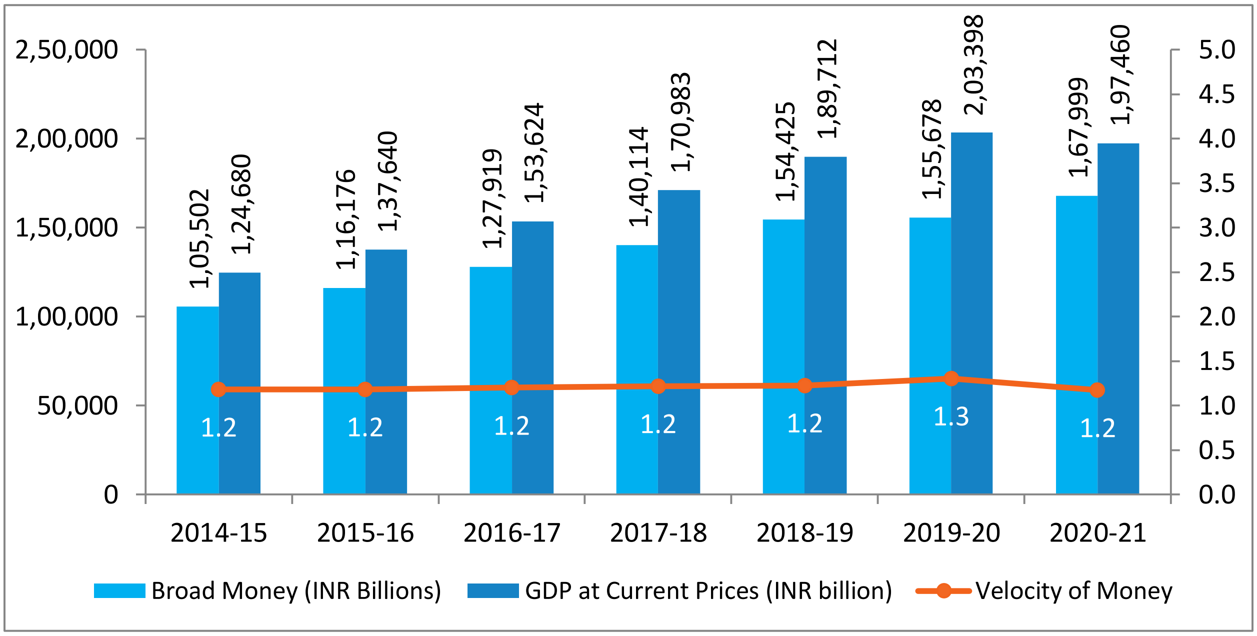
2. Note: Data forecast and projections as of Sep 2021

Source: RBI, Secondary Sources

Velocity of Money in India and Comparison across Countries

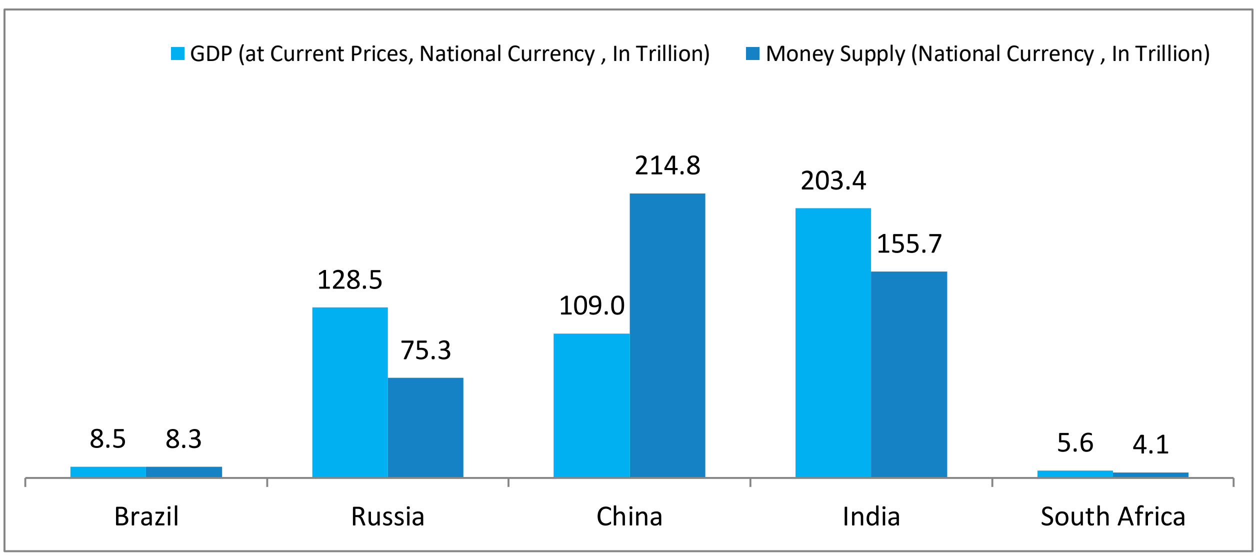
Velocity of money is defined as the average rate at with which a unit of money is spent in an economy in the given financial year. The velocity of money in India has been relatively stable over the past few years at 1.2.

Exhibit 13: Velocity of Money in India, 2015-21



Source: RBI, Bloomberg, Dea.gov

Exhibit 14: Money Supply Growth - Comparison across Countries, 2020 (estimate)

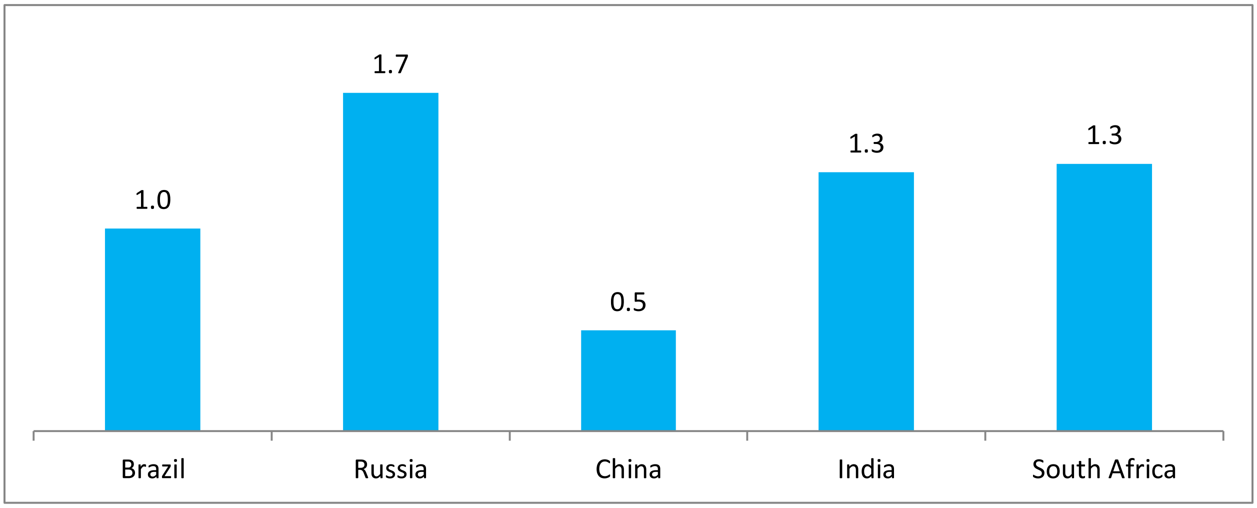


Source: RBI, Bloomberg, Dea.gov

Russia has the highest estimated velocity of money ratio in 2020E while China has the lowest velocity of money ratio despite having higher money supply. This indicates an unstable velocity of money resulting in slowing down of economic activities.

The velocity of money is generally presumed to be stable, if not constant, particularly in the short-run. If the velocity of money is stable in both long-run and short-run (i.e. no impact on output), then increase in money supply could lead to proportional increase in the GDP.

Exhibit 15: Velocity of Money (Ratio) Cross Country Comparison, 2020 (estimate)

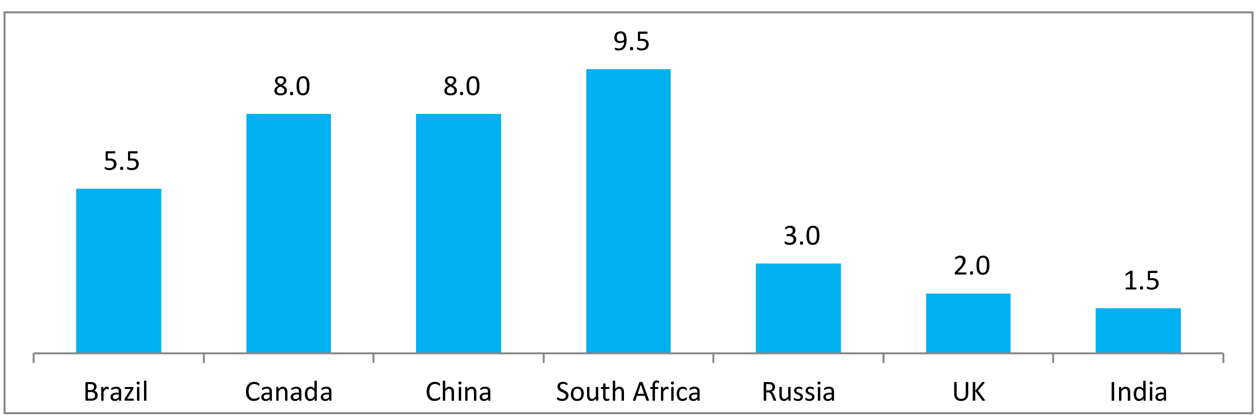


Source: RBI, Bloomberg, Dea.gov

Cash Velocity (ATM Withdrawal) / CIC in India and Comparison Across Countries

Because of the strong informal sector, low ATM penetration, and cash's role as a store of value, a significant part of cash does not flow in ATM/banking systems. Further, cash velocity, measured by ATM withdrawals is at ~17% of GDP or 1.5x of CIC, much lower than other countries, indicating a significant headroom for growth in cash circulated through ATM / banking systems.

Exhibit 16: ATM Withdrawals to Cash in Circulation Ratio Comparison across Countries, 2020



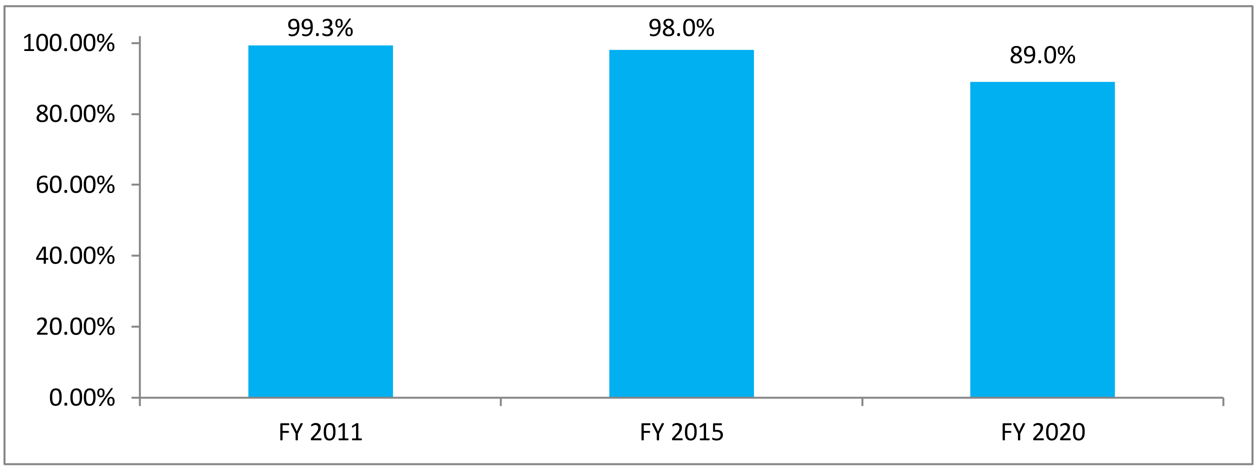
Source: IMF, Other Secondary Sources

Cash intensity in India

India has majorly been a cash-intensive economy. Though over the years the percentage of cash value transactions have been declining steadily due to the increase in the percentage of value of non-cash payment transactions, cash remains the major mode of payment in the country.

Despite an increase in digital transactions in India, cash still accounts for most payment transactions (at point of sale) in the country. Roughly 89 percent of all transactions in India by volume were cash-based in 2020, down from 99.3 percent in 2011. In FY 21, around 85-88% of all transactions by volume were anticipated to be via cash. While other methods of payment have found their way to compete with cash payments, a large portion of the country still prefers cash payments and hence cash transactions by volume have not decreased at the same rate as those by value.

Exhibit 17: Cash Transactions by Volume of Total Transactions (2011, 2015, 2020), (%)



Source: Business Standard, Livemint, Bloomberg

India has traditionally been a cash economy, and cash remains a popular and generally accepted payment method. While the government's efforts to raise awareness about digital payments, as well as banks' ongoing efforts to register merchants to join the digital payments ecosystem, have resulted in an increase in the number of digital transactions, cash still reigns supreme in India because it is a convenient mode of transaction for citizens in semi-urban and rural areas. Because of the scarcity of alternatives, general acceptance, and lack of transaction costs, it is the bedrock of daily life.

- Lower income categories (households that make less than INR 4000 per month), tier 2+ cities (beyond the top 40), and a substantial share of micro and small merchants who accept only cash account for 70% of India's consumption.
- The currency-to-bank-deposit ratio increased from a decennial average of 15.1 percent to 16.3 percent by March 2021.
- The growth of the informal economy is significantly connected with cash usage, and this is a fundamental driver of India's persistent reliance on cash (the informal economy contributes between 40-50 percent of GDP).

- India has only made modest progress in developing its cybersecurity policy and framework. The availability of cash is supposed to act as a safeguard against cyber-attacks. Only in 2020 did the RBI issue its first 'Digital Payment Security Control Directions.' Outside of the metro regions, all the other regions have witnessed an increase in the number of ATMs over the last few years, indicating a reliance on cash and cash as the engine of economic growth. As a result, ATM deployment contributes to greater financial inclusion by expanding the reach of banking services, particularly in semi-urban and rural areas.
- As technology advances, the ATM industry is moving toward Cash Recycling Machines (CRMs), card-less cash withdrawals, contact-less cash withdrawals, and Aadhaar enabled biometric authentication, transforming the ATM into a digital touch point that provides a variety of banking services while enhancing customer safety and convenience. Increased White Label ATMs (WLAs) installations, CRM deployment at WLAs, and cash deposit interoperability would boost ATM penetration levels in the country, particularly in rural and semi-urban areas, allowing for easier access to banking services.
- Cash also retains some inherent advantages over other forms of payment, particularly for small-value transactions (e.g., store of value, availability, legal tender, etc.) and has remained at 40% or more of all transactions (by value) even in advanced economies with well-developed digital payment infrastructure.
- Debit cards are facilitators of cash withdrawals and usage in India and owing to a low POS penetration in the country, the debit card ATM usage to POS usage stands at a ratio of 6.7:1 as of August 21, making debit cards are the single most prevalent payment instrument covering over 800 million Indians.

1.7. India's Banking Structure

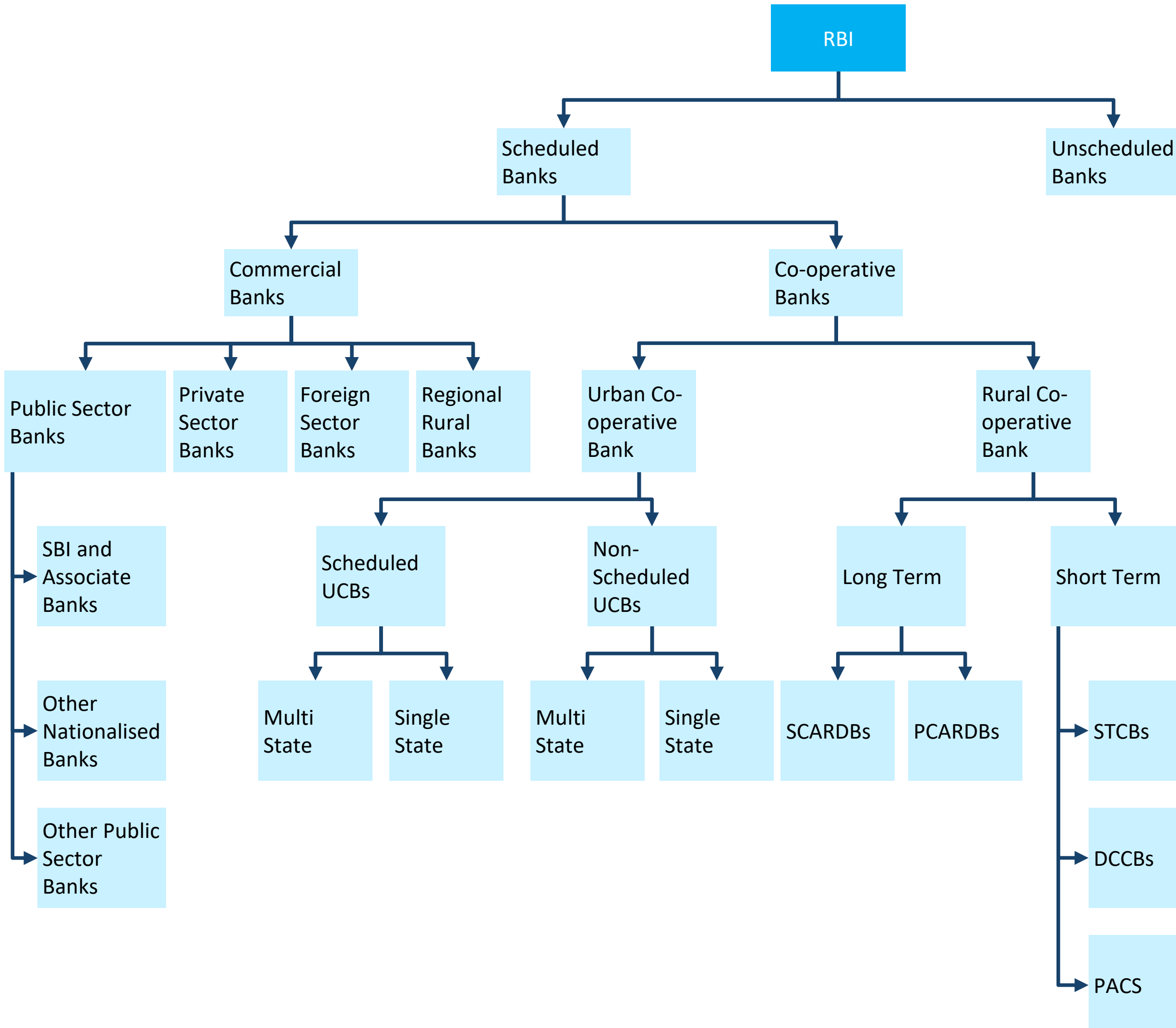
Indian banking structure comprises of the following major groups of banks and financial institutions:

Scheduled Commercial Banks (SCBs) provide various banking products and services across all geographies in India and abroad, to retail, corporate and government sectors. Based on their ownership structure, banks in India are grouped as Public Sector Banks [State Bank of India, 19 Nationalized Banks , and IDBI Bank Limited], Private Sector Banks [32 Indian banks and 44 foreign banks] and 56 Regional Rural Banks, which were created with a view to serve primarily the rural areas of India with basic banking and financial services.

Local Area Banks (LABs) are non – scheduled commercial banks which were established as local banks in the private sector with jurisdiction over two to five contiguous districts to enable the mobilization of rural savings by local institutions and make them available for loans and investments in the local areas.

The co-operative banking structure in India comprises of Urban Co-operative Banks (UCBs) and Rural Co-operative Credit Institutions. The segregation of Co-operative Banks is as per the figure below:

Exhibit 18 : Banking Structure in India2



Source: RBI

There are also differentiated banks, viz. Small Finance Banks (SFBs) and Payments Banks (PBs) which are new entrants to the banking system.

Further the financial support services are also a part of the Indian financial system which comprises of Non-Banking Financial Companies (NBFC) which provides financial services including housing, equipment leasing, hire purchase, loans, and investments among others. The NBFCs are classified into two broad categories deposit taking NBFCs and non-deposit taking NBFCs. As on March 2021, there were 9,601 NBFCs registered with the Reserve Bank; out of which 64 were deposit-taking (NBFCs-D) and 285 were systemically important non-deposit accepting NBFCs (NBFCs-ND-SI).

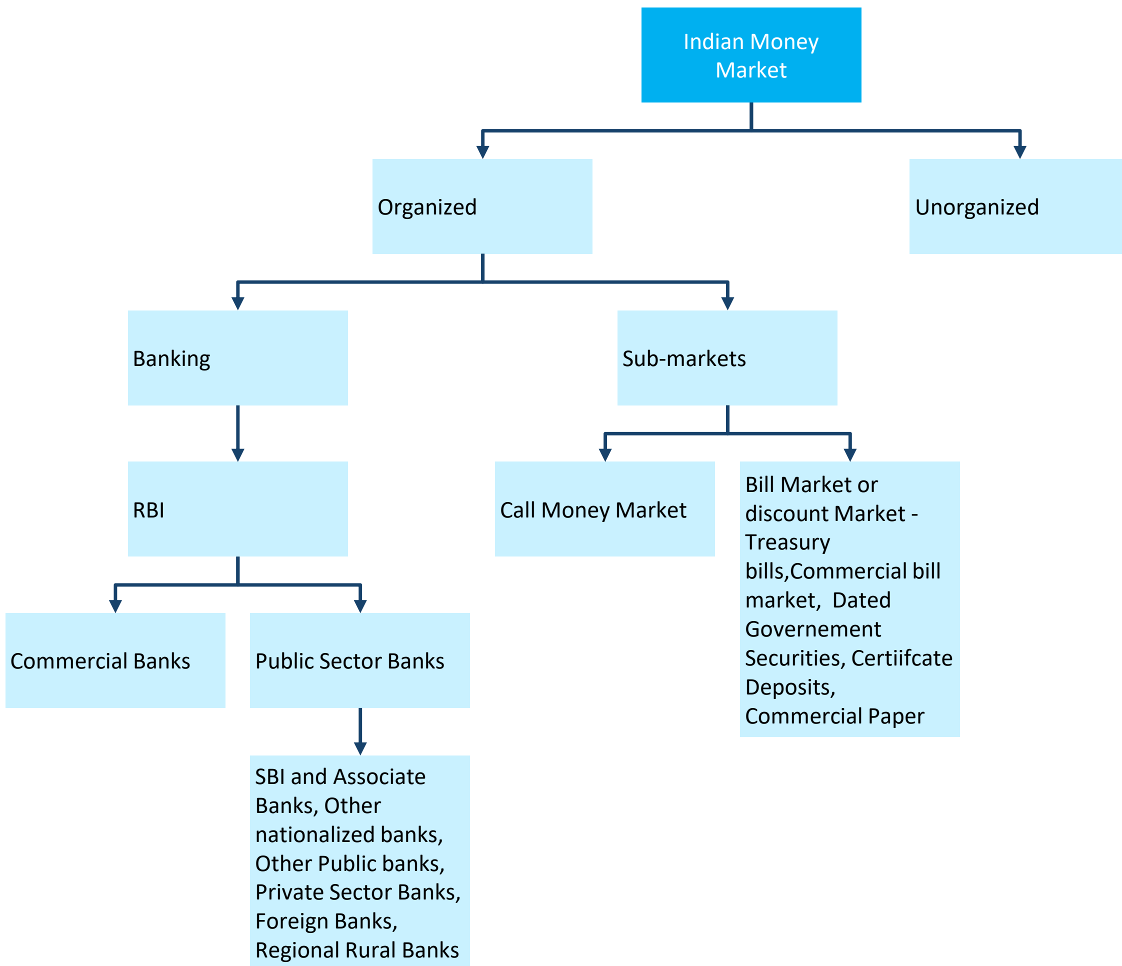
[2] STCBs: State Central Co-operative Banks, DCCBs: District Central Co-operative Banks, (PACS): Primary Agricultural Credit Societies, PCARDBs : Primary Co-operative Agriculture and Rural Development Banks; SCARDBs: State Co-operative Agriculture and Rural Development Banks

Structure of Indian Money Market

I. Structure of Indian Money Market

The Indian money market is broadly divided into the Organized and Unorganized. Reserve Bank of India is the regulatory authority of the organized money market. Further the organized market is segregated into Banking and Sub markets.

Exhibit 19: India's Money Market Structure



Source: RBI

II. Organized Structure

Banking

- Reserve Bank of India.
- Commercial Banks - Public Sector Banks - SBI and Associate Banks, Other nationalized banks, Other Public Banks, Private Sector Banks, Foreign Banks, Regional Rural Banks
- Co-operative Banks

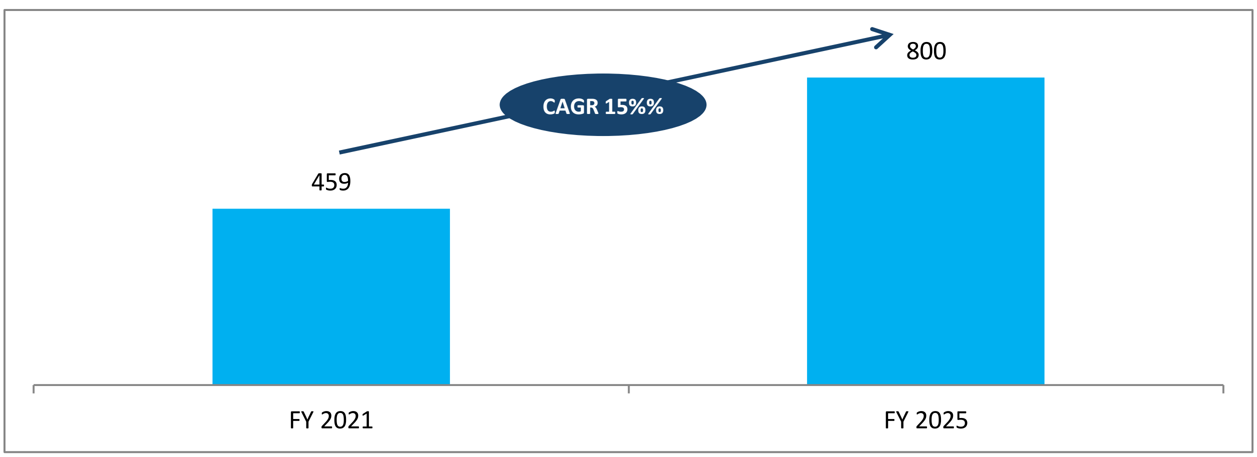
Sub Markets

- Call Money Market
- Bill Market or Discount Market - Treasury Bills, Commercial Bill market, Dated Government Securities, Certificate Deposits, Commercial Paper.

Growth of Indian Financial Services Market

India has a diverse financial services sector that is rapidly expanding, both in terms of established financial services firms' robust growth and new entrants into the market. Commercial banks, insurance firms, non-banking financial companies, co-operatives, pension funds, mutual funds, and other smaller financial institutions make up the sector. New businesses, such as payment banks, have lately been allowed to be established by the banking regulator, expanding the types of entities that operate in the industry. However, India's financial sector is primarily a banking sector, with commercial banks accounting for more than 64% of the financial system's total assets.

Exhibit 20: Indian Financial Services Market Size (in USD Billions), 2021-2025



Note: Data forecast and projections as of Sep 2021

Source: Frost & Sullivan, Secondary Sources

Indian financial services market will continue to grow at a healthy pace driven by significant under penetration of financial products and services:

- **ATM Penetration**: The ATM penetration rate in India is approximately 22 per 1 lakh individuals at an overall level with SURU areas being acutely underpenetrated at 15 ATMs per 1 lakh individuals as of 2020. In contrast, the penetration rate for USA, Brazil, China and Mexico is 123, 103, 95 and 62 respectively per 1 lakh individuals as of 2020. The global average for ATM penetration stands at 47 ATMs per 1 lakh individuals.
- **POS Penetration**: Similar to ATMs, the POS penetration rate in India is also significantly less, standing at 3 per thousand individuals as of 2020. Compared to China and Mexico that have POS penetration rates of 23 and 8 per thousand individuals respectively as of 2020.
- **Credit Cards**: With respect to credit cards, India is one of the least penetrated regions with a credit card penetration rate of 3 per 100 individuals.
- **Insurance:** Insurance plays a significant role with respect to the financial services market and India's under penetration with respect to insurance is evident from the fact that only 35% of individuals are covered by health insurance in the country.
- **Loans**: Less than 10% of the population has access to credit loans in the country
- **Investments**: India only has ~2-4 million retail investors out of 550 million workforce

Indian banking sector is poised for a growth phase, coming out of an extended period of capex stagnation and credit down-cycle over the last 5 years on account of high NPA levels, demonetization, GST implementation and PSU mergers. The upcycle is expected to drive expansion into SURU areas, investments in creating infrastructure, including ATMs and which will drive opportunities for variety of service providers to banks, including cash management companies.

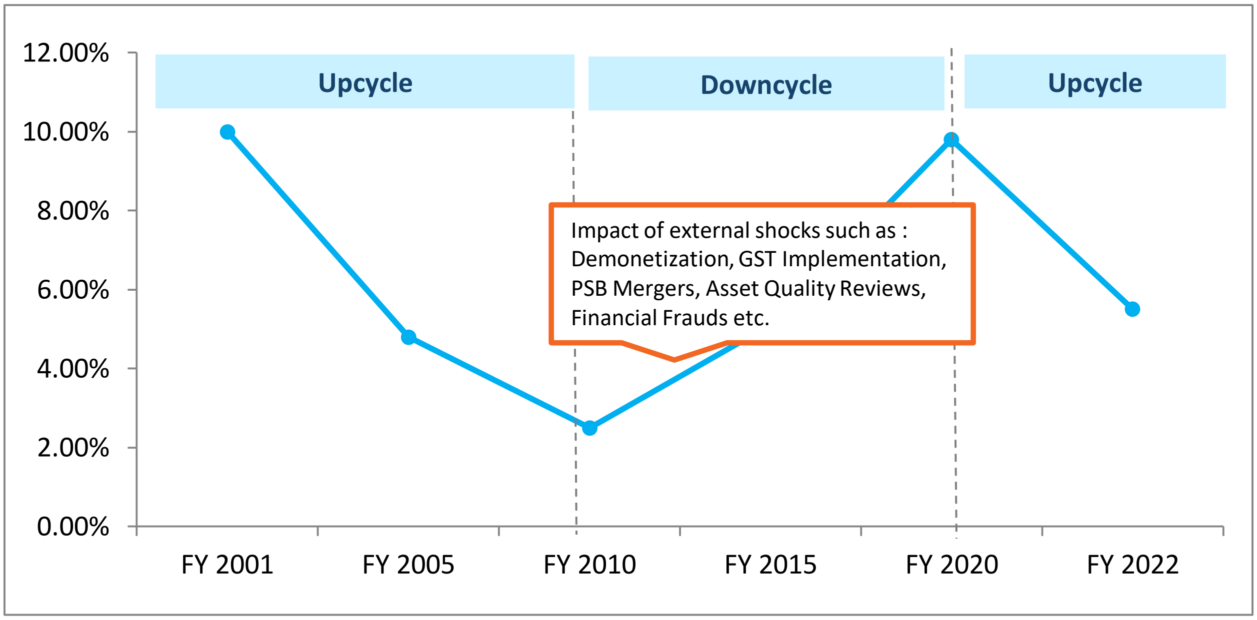
NPAs as Percentage of Advances

Amidst concerns about rising NPAs, the Government of India stated that the increase in NPAs is due to the Asset Quality Review (AQR) initiated in 2015, where-in stressed accounts were reclassified as NPAs.

NPA coverage ratios are already quite high (e.g., 89 percent for Bank of Baroda), indicating that sufficient provisions for bad debts have already been made; NPA ratio peaked in FY19 at 11.2%, and has been declining since then. Banks such as SBI, large PSBs, and large private sector banks are renewing focus on their retail books. The banking sector in India is positioned for a growth phase after an extended period of stagnation in capital expenditures and a credit down-cycle since 2010.

- Public sector banks have been recapitalized following asset quality reviews, balance sheet clean-ups, and external shocks such as demonetization and COVID – INR 3.5 lakh crore recapitalization in the last four years
- Bank mergers have largely materialized and PSBs are returning to expansion mode – as evidenced by recent RFPs for 20,000+ ATMs by SBI, BOB, and BOI
- Government is pushing towards financial inclusion and improving reach in SURU areas, evidenced by the government directive to open 15K+ branches in SURU areas in FY21.

Exhibit 21: NPA as % of Advances, FY 2001-FY2022



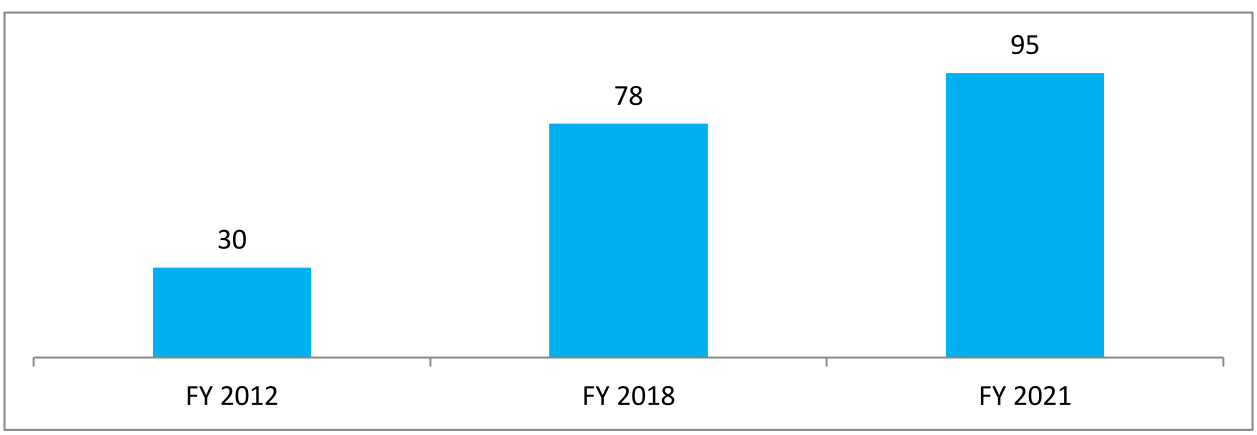
Note: Data forecast and projections as of Sep 2021

Source: RBI, Secondary Sources

Increase in Number of Bank Account Holders

Approximately 80% of Indians possess bank accounts today as compared to 53% in 2014. Adult Indians are transacting more through their bank accounts and entering formal banking channel, a behavioral shift that could help improve the government's tax revenues. With a view to increase banking penetration and promote financial inclusion, Pradhan Mantri Jan Dhan Yojana (PMJDY) was launched on 28th August, 2014 to provide affordable financial services to all citizens within a reasonable distance. As of 2019, a total of 34.03 crore accounts have been opened under PMJDY with deposit balance of Rs. 88,566.92 crore.

Exhibit 22: Number of Bank A/C holders (in Crores), FY 2021-21



Source: RBI

India is a significantly large banking market with a huge number of people entering into the banking environment every year. India, over the last 5 years, added 135 million new bank accounts every year on average, which is approximately the size of the population of Russia or twice the population of the

United Kingdom. Given the young demographic and more and more people enter the formal employment, bank accounts and the need to deliver banking services across India will continue to grow. These banks will need to outsource to and work with partners such as cash management companies.

Faster Growth of ATMs

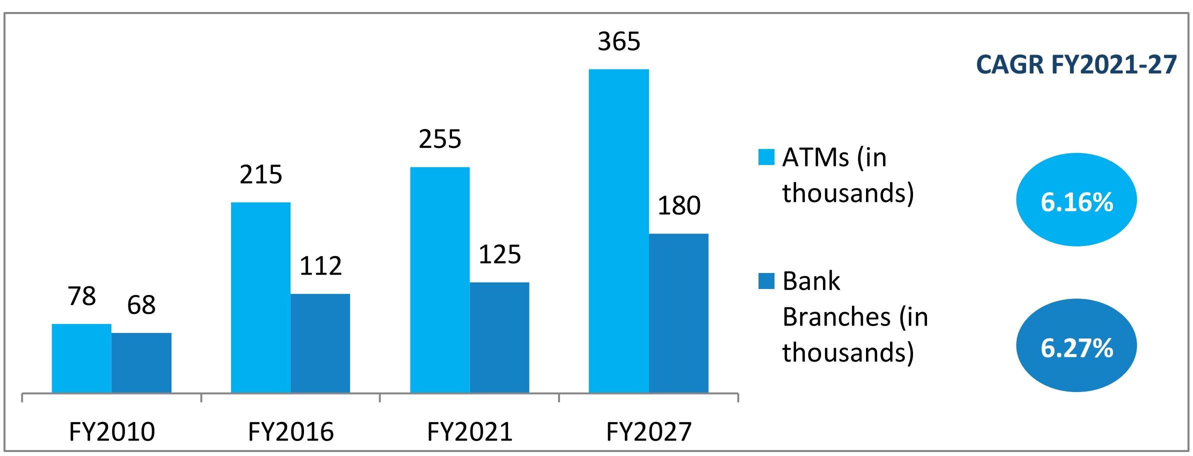
ATMs grew at a CAGR of 20% from FY11 to FY16, but then slowed to a 3% CAGR from FY16 to FY21, reaching 255K ATMs due to demonetization, PSB consolidation, and public sector bank balance sheet difficulties. Given the government focus on recapitalization and financial inclusion, banks are expected to accelerate retail expansion going forward (both in terms of branches and ATMs). Also, asset-light (opex-based) models for ATM deployment are a clear priority for banks as it takes away capex pressure and allows banks to expand faster through installation of more ATMs.

Private banks have stepped up their efforts to expand bank branches in rural and semi-urban areas in order to capitalize on the opportunities presented by rural economic growth fueled by government policies and consumer habits. As of FY 21, there were approximately 125,000 bank branches in India and this is expected 180,000 by FY 27. As per the latest RBI estimates, the number of bank branches for scheduled commercial banks as on June 2021 is approximately 150,182.

ATMs have the potential to play a significant role in the financial inclusion of rural India's population, allowing them to take use of more value-added services. According to Frost & Sullivan, the number of ATMs in India is expected to increase from 255,000 as of March 31, 2021 to 365,000 as of March 31, 2027, a CAGR of 6.16%.

Despite the government's and RBI's attempts to promote financial inclusion, a large percent of the population remained unbanked in India, owing to a lack of last-mile connectivity and infrastructure gaps. Such underpenetrated zones offer growth zones for ATMs and Banks branches.

Exhibit 23: ATM vs Bank Branches Growth, FY 2010- FY 2027



Note: Data forecast and projections as of Sep 2021

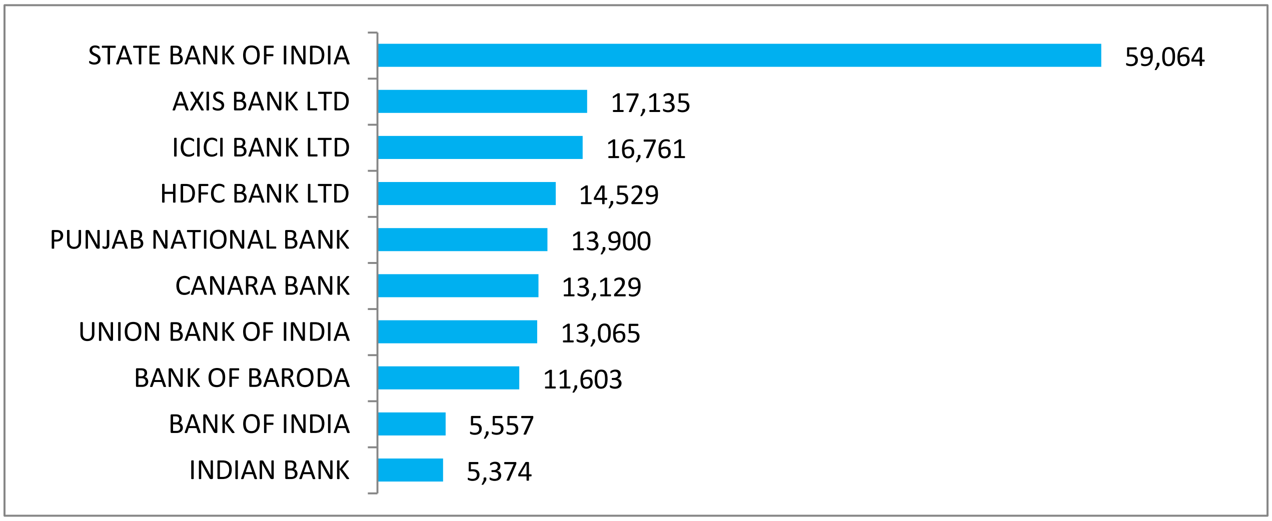
Source: RBI, Frost & Sullivan

The Reserve Bank of India (RBI) approved an increase in the interchange fees for financial transactions through automated teller machines (ATMs) from INR 15 to INR 17 and from INR 5 to INR 6 for non-financial transactions effective August 1st, 2021. The ATM interchange fee is paid by the bank that issues the card to the bank whose ATM is used to withdraw cash. The regulation is expected to spur ATM deployment across the country especially in SURU areas with low penetration.

Top ATM owners

SBI is country's largest public sector bank. The bank has become world's 45th largest lender after merger with seven sister banks - State Bank of Bikaner and Jaipur (SBBJ), State Bank of Hyderabad (SBH), State Bank of Indore (SBN), State Bank of Mysore (SBM), State Bank of Patiala (SBP), State Bank of Saurashtra (SBS) and State Bank of Travancore (SBT).

Exhibit 24: Top ATM Operators in India, 2020



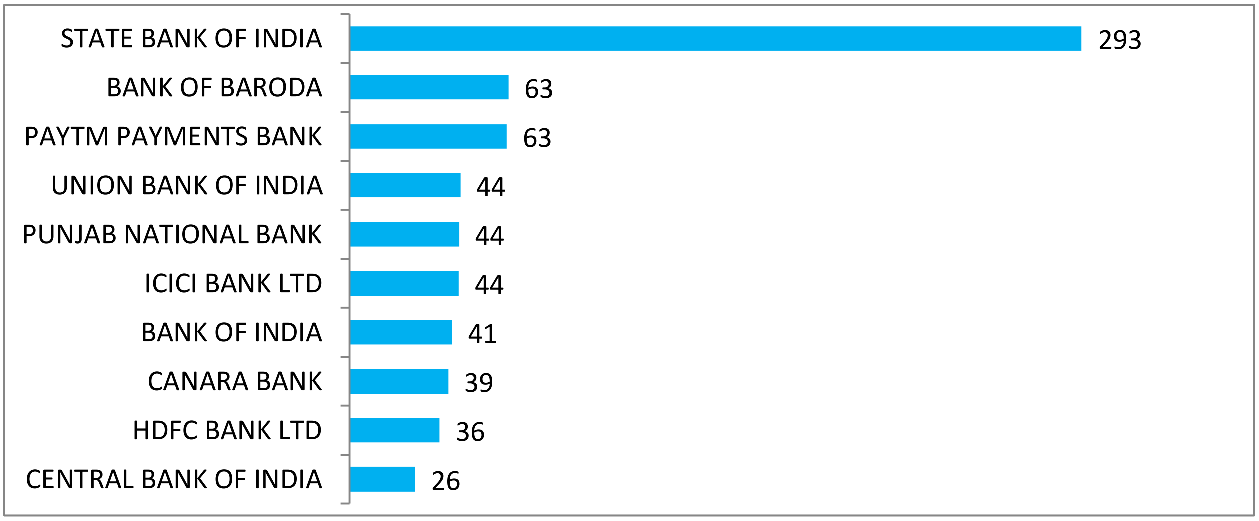
Source: RBI

Top debit card issuers

Currently, SBI has over 59,000 ATMs, and 293.3 million debit cards issued across the country as of March 2021. Being a public sector bank SBI has better regional balance, geographical reach, which has further facilitated the increase in branches, ATMs and debit cards across the country. It is followed by Axis bank and ICICI bank with 17,135 and 16,761 ATMS respectively.

In terms of debit cards issued as of March 2021, Bank of Baroda and Paytm Payments Bank follow the suit with 63 million debit cards each.

Exhibit 25: Number of Debit Cards, March 2021 (in Millions)



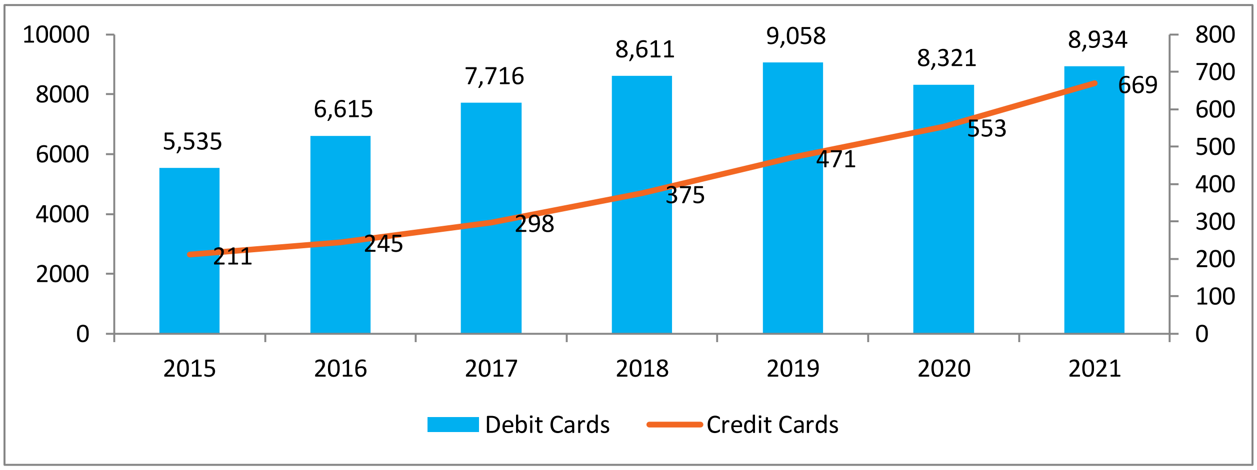
Source: RBI

Debit Card and Credit Card Penetration

According to RBI data, the growth rate for the number of debit cards issued declined between March 2018 and March 2019. Compared to a 12% growth rate between 2017 and 2018, the growth rate for debit cards issued was only 5% between 2018 and 2019. This was due to the RBI's directive that all magstripe cards be replaced with EMV chips by March 2019.While this slowed down the growth of debit cards issued, eventually the number of debit cards issued increased post 2020.In FY 21, the number of debit cards and credit cards stood at 8934 lakhs and 669 lakh. However, as of August 2021, there were 9138 lakh debit cards and 639 lakh credit cards issued in India, indicating a relatively positive growth for debit cards in India.

The average value of a debit card transaction is a fraction of the average value of a credit card transaction. However, the sheer number of debit cards has resulted in the average number of debit card transactions per month far outnumbering the average number of credit card transactions per month. As of 2021, there are 15 debit cards for every credit card issued in the country. In 2020, credit card spending took a knock in metros as a result of COVID-19, as malls and public transportation were entirely shut down during the lockdown. While traditional retail spending was impacted the most, there had been a significant increase in digital spending at smaller retail stores in metros and small towns. Debit cards were overwhelmingly used in all of these small-ticket purchases.

Exhibit 26: Growth of Debit & Credit Cards (Number of cards issued in Lakhs), 2015-2021



Note: Data indicative of end of financial year (March) for each year mentioned in the chart

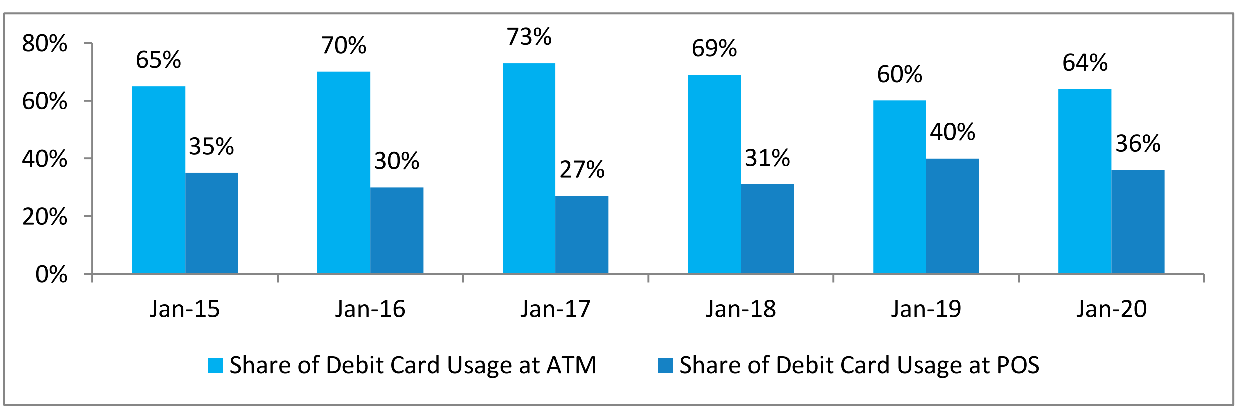
Source: RBI, Bloomberg

Debit Card Usage at ATM vs. POS

The usage of debit cards reduced while POS transactions increased on account of demonetization, as there was cash crunch in the economy as a consequence of which the cash withdrawals and cash-based transactions took a hit. In 2019, the usage of debit cards saw a reduction owing to increased digitization as well as RBI mandates for debit cards (replacing older cards with chip-based EMV cards). Going forward, owing to the increase in the cash usage, debit card transactions are expected to increase in volume as the number of ATMs and the ATM penetration in rural areas increases.

There are 15 debit cards for every credit card in the country resulting resulted in debit transactions far outnumbering credit transactions. In 2020, credit card spending took a knock in metros as a result of COVID-19, as malls and public transportation were entirely shut down during the lockdown. While traditional retail spending was impacted the most, there had been a significant increase in digital spending at smaller retail stores in metros and small towns. Debit cards were overwhelmingly used in all of these small-ticket purchases.

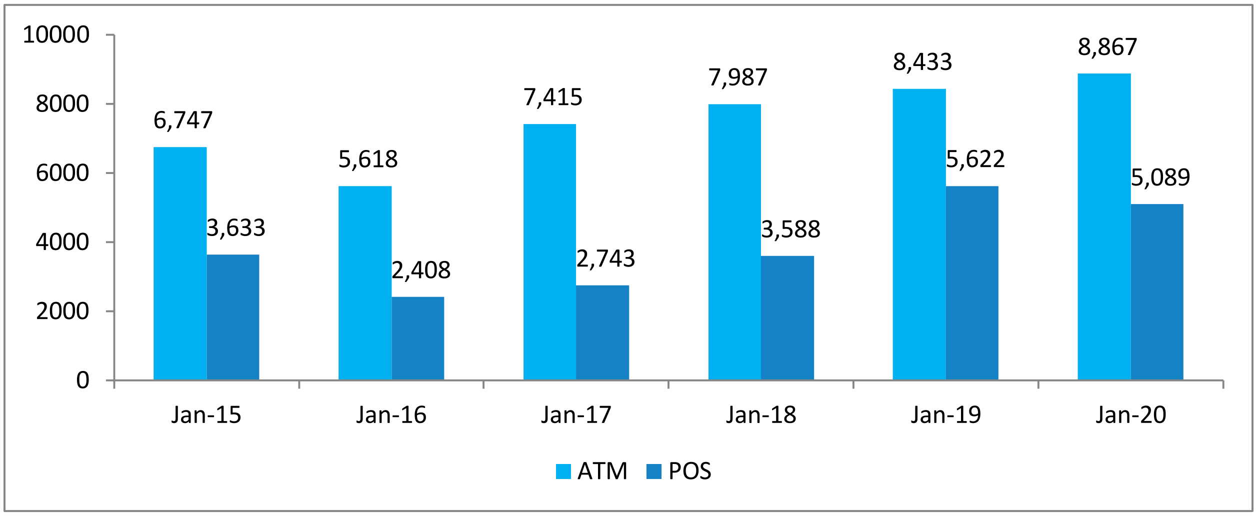
Exhibit 27: Debit Card Usage, ATM Vs POS (%), 2015-2020



Source: RBI, Secondary Sources

The usage of debit cards, by volume, also significantly increased during the beginning of 2020, but took a hit during the initial peak COVID-19 phase owing to national and regional lockdowns. As retail outlets were mostly non-operational during that period, the usage of debit cards was largely focused on the ATM side, at least during the initial and peak phases of COVID-19 in 2020. Even after the initial wave subsided during the latter part of the year, subsequent lockdowns and the general cautious approach of the public towards hoarding cash for future transactions and to meet unprecedented demands, saw an increased use of debit cards at ATMs as opposed to those used at a POS terminal.

Exhibit 28: Debit Card Usage – ATM Vs POS- By Volume, 2015-20

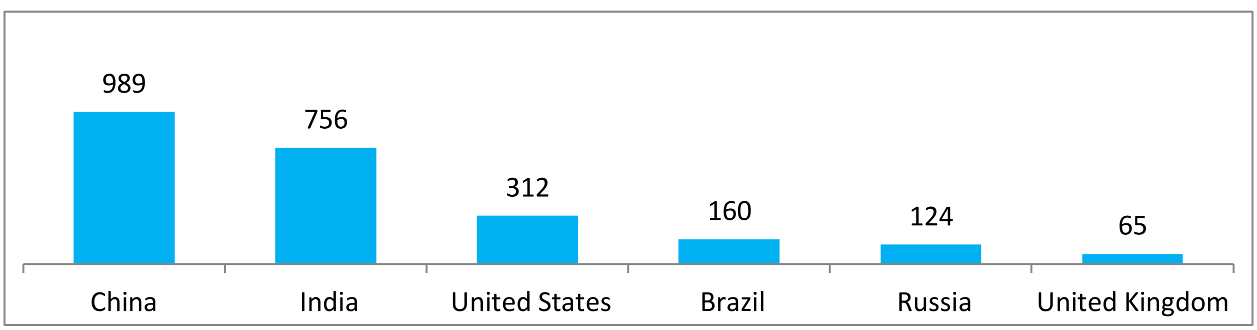


Source: RBI, Secondary Sources

Increasing Internet Access – Comparison with other countries

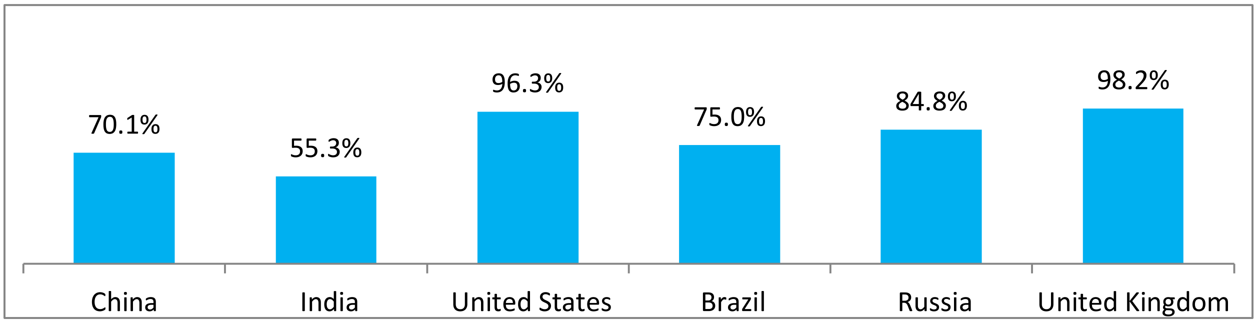
Internet access is vital for the growth of emerging economies. India and China, the world's two most populous countries, have been emerging as major economic powers. However, China has outpaced India in terms of internet users, with a count of 989 million users as against India's 756 million users as of March 2017. The current internet penetration in India is 55.3%.

Exhibit 29: Number of Internet Users (in Millions), 2020



Source: World Bank, Internetworld, Globedata

Exhibit 30: Internet Penetration (in %), 2020

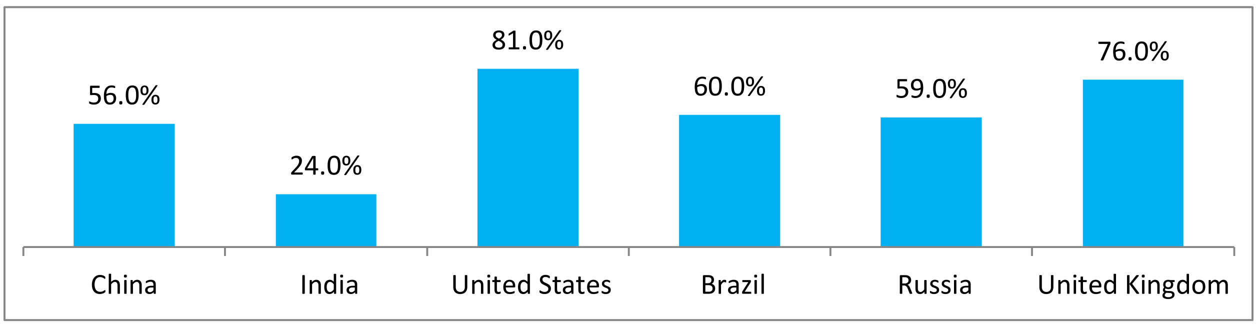


Source: IMF, World Bank, Secondary Sources

Smartphone Penetration in India – Comparison with other countries

Smartphone growth directly correlates with the growth of digital payments. Of late smartphones have been considered as the primary device for accessing the internet, largely driven by availability and affordability of smartphones. India has a relatively lower penetration and usage of smartphones, particularly owing to the lack of affordability in rural areas and the general high cost of smartphones.

Exhibit 31: Smartphone Owners (%), 2020



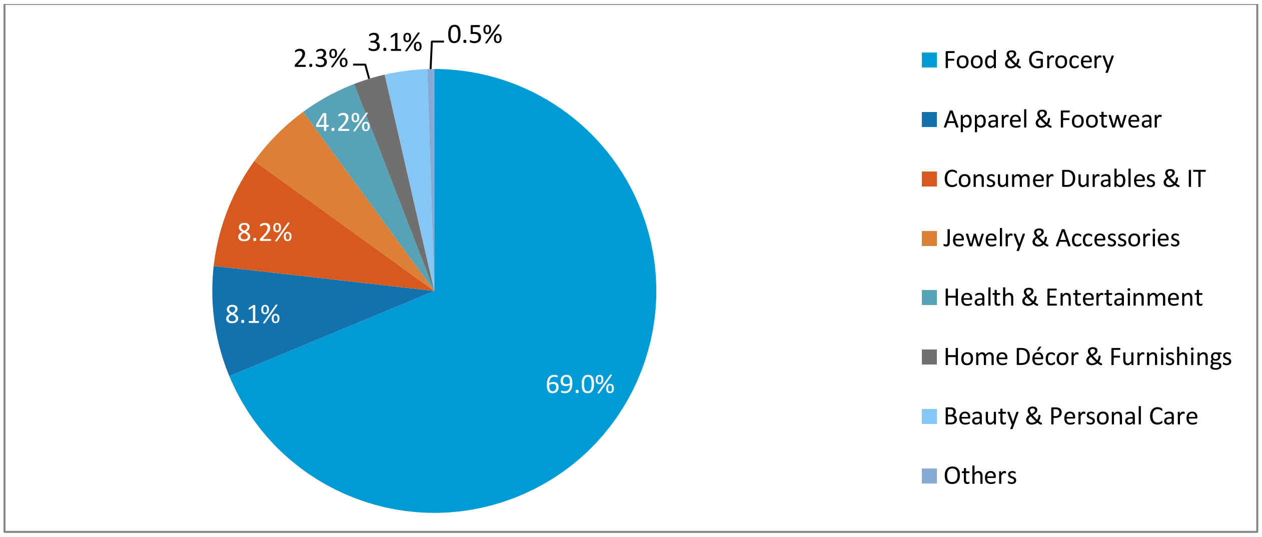
Source: IBEF, TRAI, Secondary Sources

1.8. Retail Cash Management Industry in India

Retail Market in India

Due to the introduction of businesses with novel business models, the Indian retail industry has become one of the most dynamic and fast-paced industries. It generates more over 10% of the country's GDP and employs about 8% of the workforce.. India is the world's 4th largest retail destination, and ranks 63rd in the World Bank's Ease of Doing Business 2020 report, moving up 14 spots compared to the previous year.

Exhibit 32: Total Market Share of Retail Market by Segment, 2020 (%)



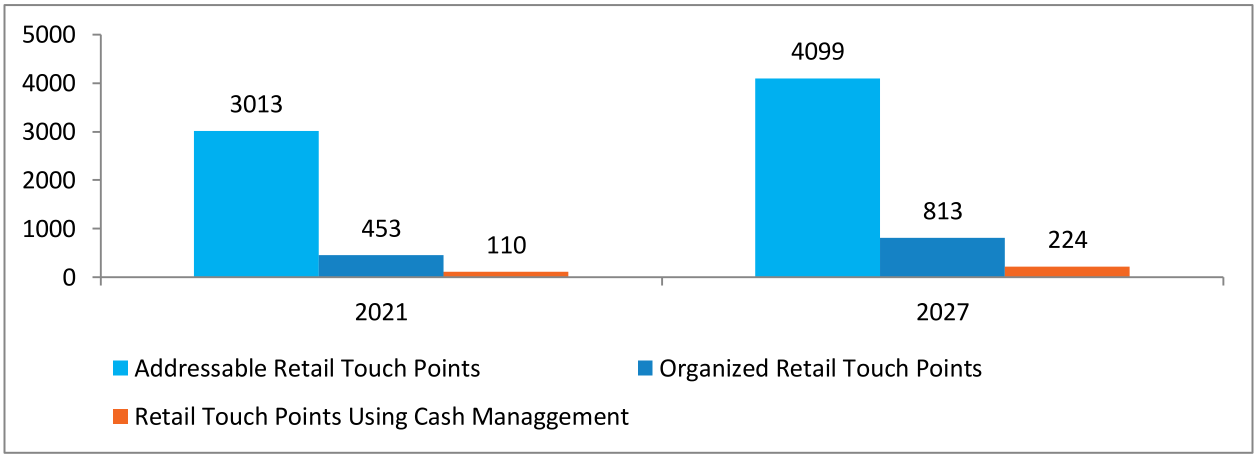
Source: IBEF, Frost & Sullivan, Secondary Sources

Food and grocery accounts for the highest share of the organized retail market in India with a ~69 percent share in financial year 2020. Apparel & footwear and consumer durables & IT rank second and third respectively. Beauty and personal care accounted for just about two percent.

The gold retail industry witnesses high cash-based transactions. India consumes 850-900 tonnes of gold annually, with rural India accounting for 60% of the total consumption. In rural India, people transact only in cash as the digital mode of transaction is yet to make its way into villages.

There are approximately 3 million retail touch points in India, addressable for cash management services in FY 2021. Of this, about 453 thousand retail points come under the organized sector (~15% of the total addressable market). As of FY 2021, only 20-25% of this organized retail touch points are utilizing cash management services and currently stands at 110 thousand. By FY 2027, the number of addressable retail touch points for cash management is expected to rise up to ~4 million and subsequently the organized retail touch points are expected to increase up to 813 thousand (owing to increase in the penetration of organized retail). Hence by FY 2027, the total number of organized retail outlets available for cash management is expected to reach a size of 224 thousand.

Exhibit 33: Growth of Retail Touch Points For Cash Management (in 000s)

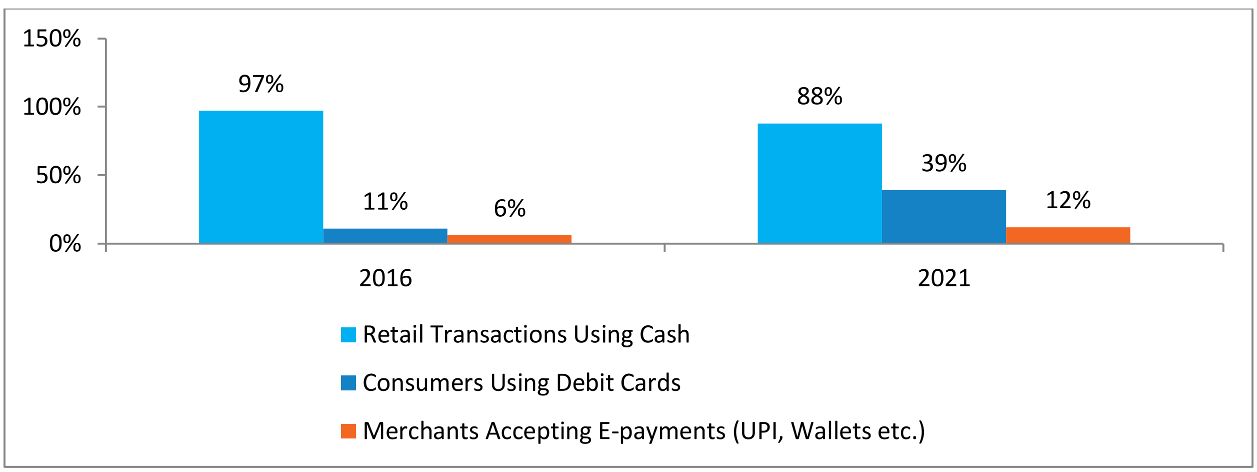


Note: Data forecast and projections as of Sep 2021

Source: Frost & Sullivan, Secondary Sources

The cash retail payments still dominate the Indian retail sector as most of the non-cash payments are not available to most of the Indian population staying in the rural areas where net banking and other non-cash payment modes have not reached yet. Cash still dominates as the most preferred method of payment for retail purchases.

Exhibit 34: Share of Retail Transactions in Cash by Volume, (in %), 2016-2021



Note: Data forecast and projections as of Sep 2021

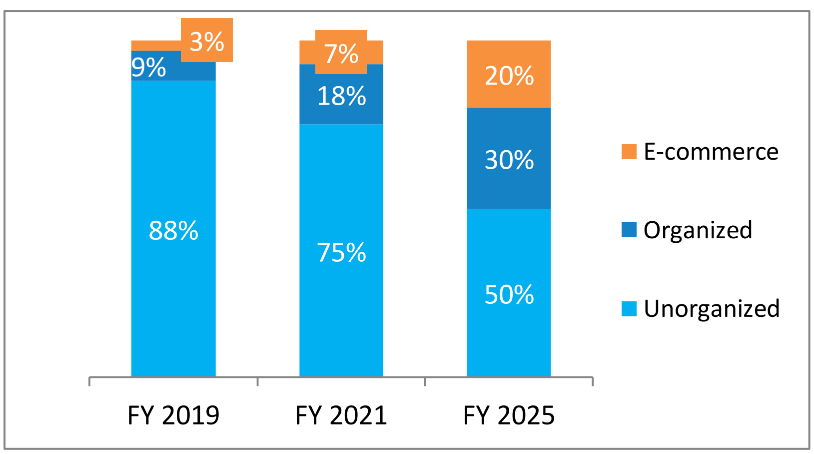
Source: Frost & Sullivan, Secondary Sources

GST and its Impact of Shift from Unorganized to Organized Sector on Retail Cash Management

Indian retail sector comprises of organized and unorganized sector, where in the unorganized sector in the form of local kirana shops, owner-operated stores, and small mobile convenience stores garner majority of the share. After the implementation of GST, every tax payer in the retail sector will be liable for proper accounting and book keeping and implementation of GST may aide to growth of Retail Cash Management in India. Further, it is anticipated that the unorganized sector retailers would also participate in the mainstream tax paying system. Thus, leading unorganized retail sector to shift to organized retail sector. Further the government is also discouraging purchase of goods from the unregistered dealers as tax on the purchase from unregistered dealer needs to be paid by the registered dealer by way of reverse charge. Following are the major transformation factors responsible for the shift of unorganized to organized sector post GST:

1. Availability of tax credit on all the transactions will be beneficial to both organized sector and unorganized sector retailer, due to the uniformity of tax rates across the country.
2. Benefit of composition scheme will be availed to small retailers with an income of up to INR 5 million (INR 50 lakhs), where tax of 1% of the sales will be paid along with the relaxation in maintenance of accounts and records.
3. GST registration threshold limit for traders has been increased from INR 0.5 – 1.5 Million to INR 2.0 Million, in line with the state VAT limits.
4. Small retailers who are doing business with the e-commerce channels would need to maintain records and will be subject to tax collection at source at 2% by the e-commerce company which later will be deducted from the tax payment by these small retailers.
5. All these above factors will help the government in bringing the unorganized retail sector under organized retail sector in the future.

Exhibit 35: Segment-wise Contribution in Retail Industry, in %



Note: Data forecast and projections as of Sep 2021

Source: IBEF, Frost & Sullivan, Secondary Sources

- Unorganized retail, organized retail, and e-commerce accounted for 88 percent, 9 percent, and 3% of the market, respectively, in FY19. In FY 2021, the market share stood at 75%, 18% and 7% for unorganized, organized and e-commerce retail.
- India's organized retail market is increasing at a 20-25 percent annual rate and is expected to contribute to 30% of the market share by FY 2025.

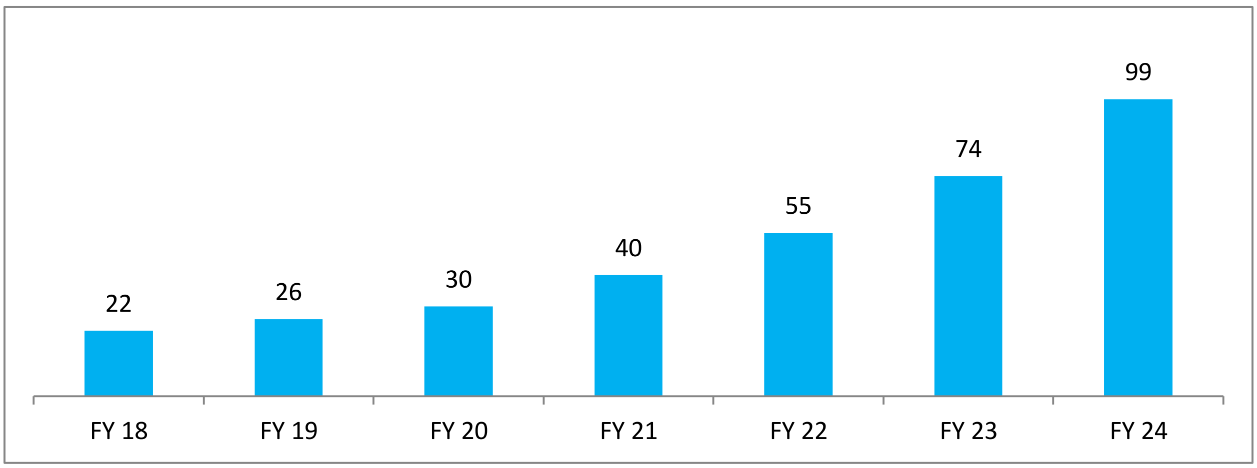
2. Cash Economy of India

2.1. Online Retail Commerce in terms of Cash Component

The Indian E-commerce market was valued at USD 22 billion in FY 2018 and is expected to reach a value of USD 99 billion by FY 2024. Post 2015, the e-commerce market in India has witnessed a tremendous growth in terms of value owing to the prevalence of online shopping giants such as Amazon, Flipkart, Reliance Jio etc.

Cash on delivery (COD) is the most used method of payment amongst e-commerce retailers in India. In FY 2020 COD constituted more than 65% of all e-commerce payments, indicating the significance of cash with respect to payments, growing on back of expansion into Tier 2 to 4 markets. The share of COD payments is more pronounced as we move from metros (~50% COD) to lower tiers such as tier 2 (~70% COD) and tier 4 regions (~90% COD). As the e-commerce penetration increases in these lower tiers, the share of COD payments is also expected to increase correspondingly.

Exhibit 36: E-commerce Market Growth, FY 2018-2024, USD Billions

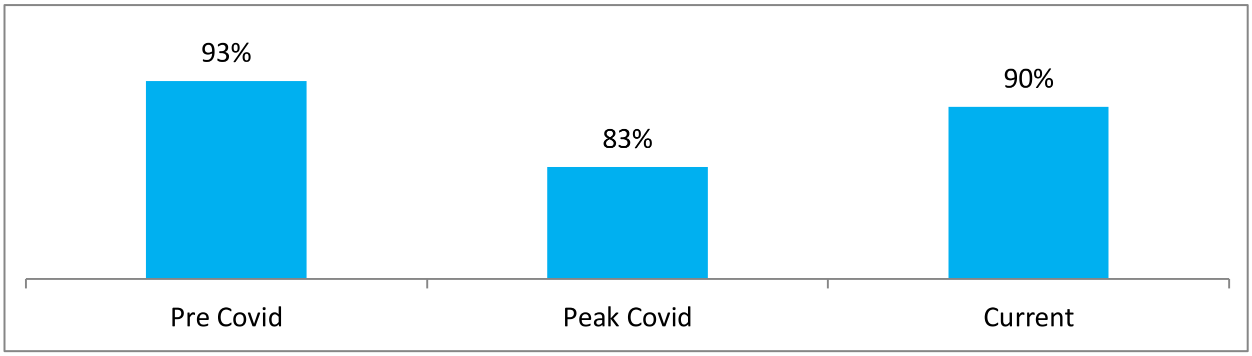


Source: IMRG, Nasscom, IBEF

Cash usage pre-Covid, peak Covid, and current

The usage of cash for transactions in the Indian economy has shown resilience even with Covid-19. While the volume of transactions in cash declined 12% during the peak of Covid-19 compared to the months immediately preceding Covid-19, with the Covid-19 situation improving, the average volume of transactions in cash for the Covid-19 period (till March 2021) is at 90% of the volume immediately preceding Covid-19.

Exhibit 37: Percentage of Merchants Reporting Majority of Transactions in Cash, in %, March 2021

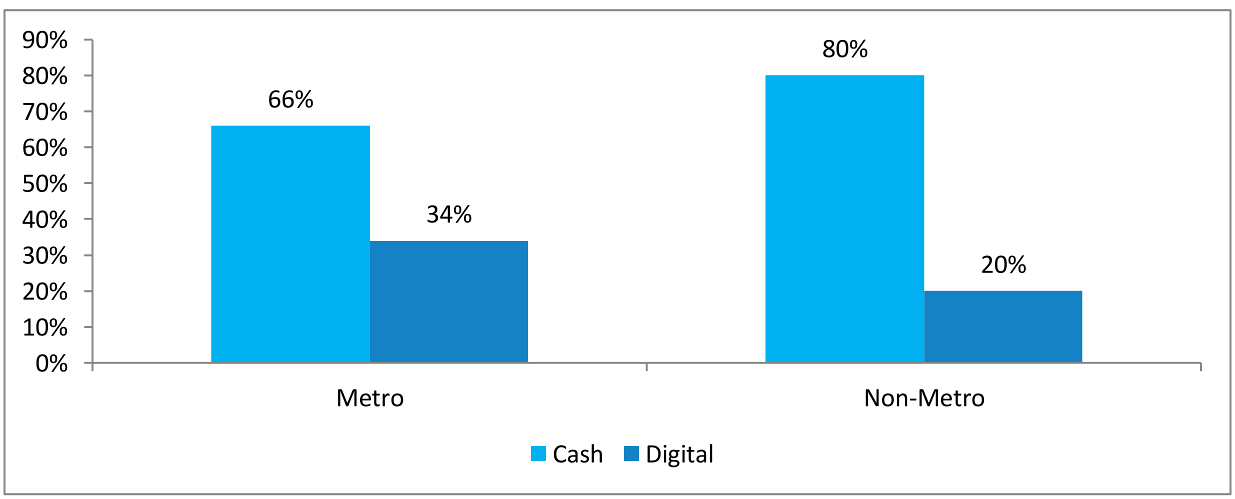


Source: Redcore Analysis Survey, March 2021

The COVID-19 pandemic has resulted in a shift in cash usage, with consumers withdrawing bigger sums from ATMs. The average withdrawal ticket size increased by over 20%, as people withdrew in larger amounts and choose to stockpile, precluding medical or other types of emergencies. While cash withdrawals increased during peak COVID period, cash transactions with respect to merchant payments declined slightly. In both rural and urban India, as of July 2021, the average withdrawal ticket size (total cash transacted divided by the number of people making such transactions) increased by 20% to Rs 3,000-4,000, up from Rs 2,000-3,000 previously.

According to a survey report by Redcore, 80% of the merchants in Non-metro regions and 66% of merchants in metro regions prefer their payments via cash as they need to make payments to their vendors in cash.

Exhibit 38: Payments Received Through Cash By Merchants, India, in %, 2020



Source: Redcore Analysis, March 2021

While digital transactions and cashless payment methods have been touted to replace cash in the Indian retail space, the underlying reasons for choosing cash as a method of payment are much more complex. Consumers prefer cash due to behavioural reasons which is unlikely to change with improvement in digital payment infrastructure. Some of the key reasons why cash transactions are preferred over other payment methods are as follows:

Reduced Fees: The most obvious benefit is the reduction or elimination of fees related with the use of credit cards. Merchants can eliminate processing fees, which reduce profit margins, while consumers can avoid paying credit interest rates on minor purchases.

Simplicity: A discount program is easier to comprehend for both employees and customers. Pricing disputes, interest rates, processing fees, charge backs, and other complicated accounting problems can be greatly reduced for all parties because all items in the store are priced with a built-in service fee that is subtracted if customers pay with cash.

Reduced Debts: Merchants are able to keep more profit and lower credit card charge-offs since they have less debt. When given a discounted cash option, customers are also less likely to rack up considerable credit card debt.

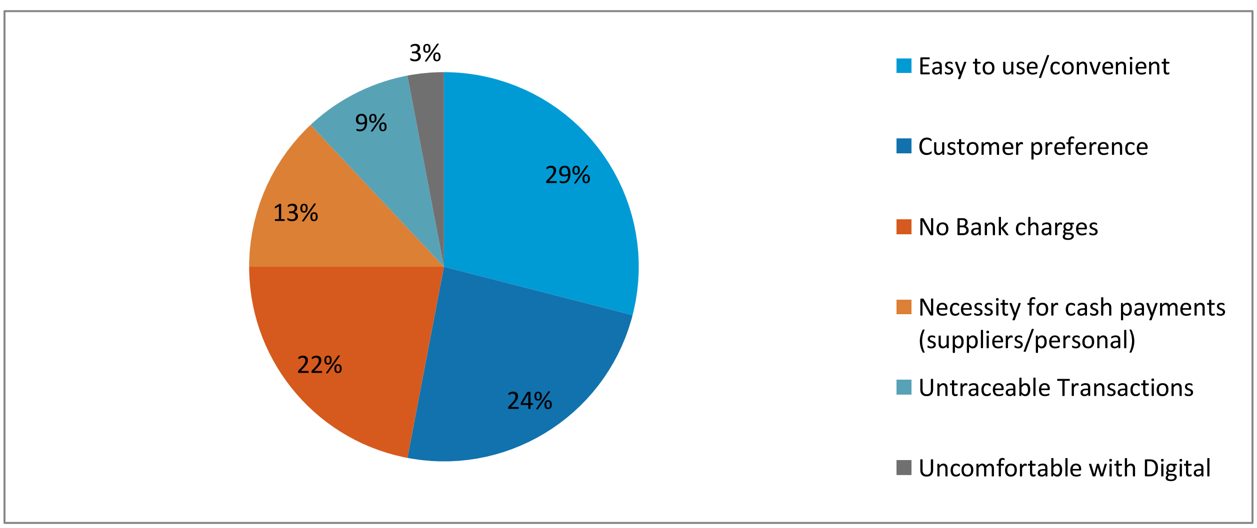
Cash is anonymous: Anonymity Cash, unlike electronic money, leaves no digital trail. Even while banks and governments prefer this traceability, individuals place a great importance on anonymity when making everyday purchases.

Cash is a tangible and aids in budgeting: Cash makes budgeting easier and helps a broad group of people to be more responsible with their money. Consumers have more control over their finances when they use cash since they can see how much money they have.

Minimum Purchases: Smaller stores would frequently need a minimum purchase amount, such as $10, before accepting a credit card. This can include purchasing products that aren't necessary merely to be able to pay with a card. Using cash prevents people from making unnecessary purchases.

According to the Redcore report, majority of merchants prefer cash as it is convenient, customers prefer to pay in cash, and don’t have any bank charges.

Exhibit 39: Perceived Benefits of Receiving Payments in Cash for Merchants, in %, March 2021

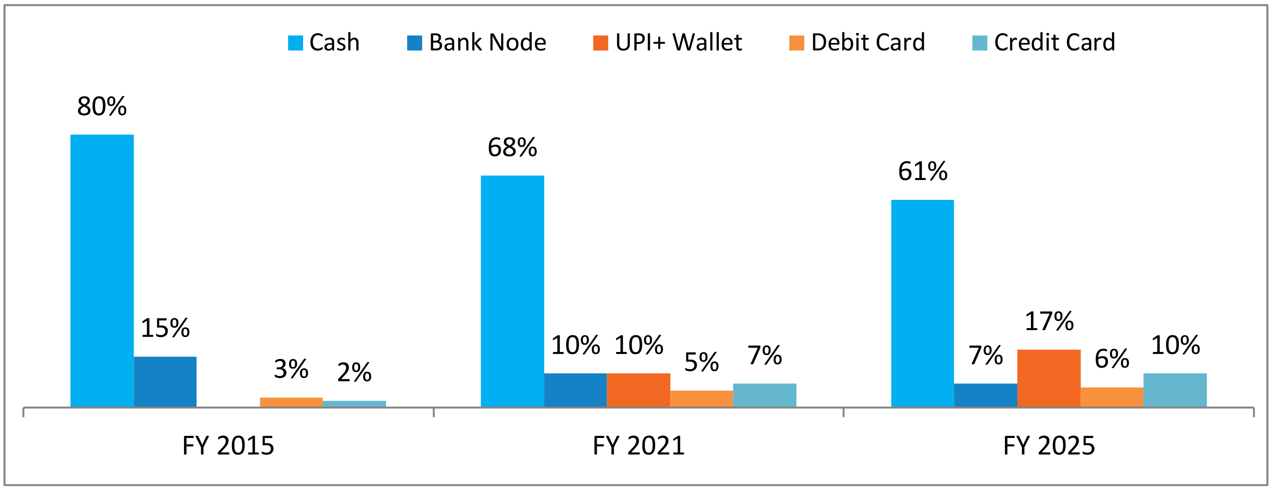


Source: Redcore Analysis, March 2021

2.2. Cash as Percentage of all Payment Modes

Despite the effects of Demonetization and Covid, Cash is still the most preferred method of payment as compared to other payment methods. While digitization initiatives have led to the increase in card and UPI payments, cash payments are expected to continue to dominate, and even in 2025, 61% of transactions are expected to be through cash.

Exhibit 40: Preferred Method of Payment in India, in %, FY 2015-2025



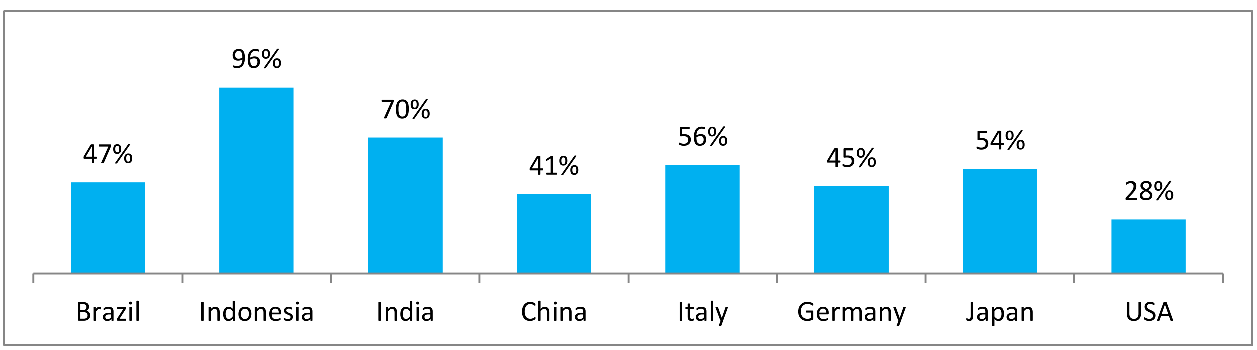
Note: Data forecast and projections as of Sep 2021

Source: RBI, Frost & Sullivan, Secondary Sources

Benchmarking of cash as a % of all transactions with other countries

Cash-intense nature of the Indian economy translates to India having highest cash transactions by value and volume amongst the BRIC nations. While digital digitization has made a dent in the overall cash transactions, the Indian consumers continue to prefer using cash transactions for a variety of reasons including convenience, ease of use and exactness associated with cash as a mode of transaction.

Exhibit 41: Cash as a % of All Transactions (Volume), 2019-20

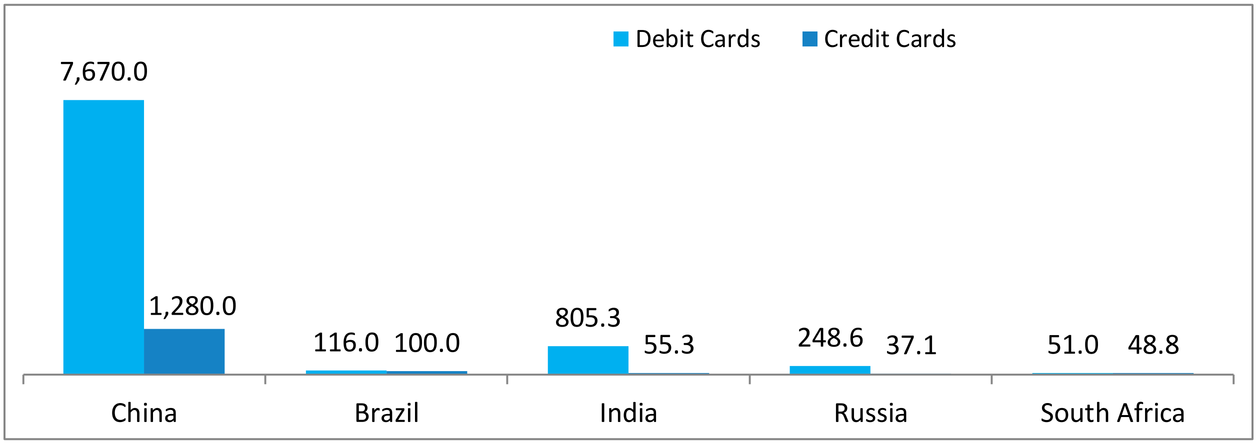


Source: Global Cash Report 2019

2.3. Benchmarking Debit and Credit Cards Issued with other Countries

With over 850 million debit and credit cards, India is primarily a debit card country. In India, debit cards are used by 70% of people aged 15 and up. Debit card adoption is linked to financial inclusion efforts such as Jan-Dhan accounts and DBT beneficiaries. The negative impact of the COVID-19 pandemic on many sectors of the Indian economy, including auto, electronic, and consumer durables, hotels and restaurants, physical retail stores, e-commerce (non-essential), tourism and hospitality, as well as the nationwide lockdown, has slowed the growth of this payment mode. The banking habits of an economy are characterized by high financial inclusion and adequate access to 'plastic money' which depends on the infrastructure availability related to banking of an economy.

Exhibit 42: Number of Debit & Credit Cards (in Millions), 2020

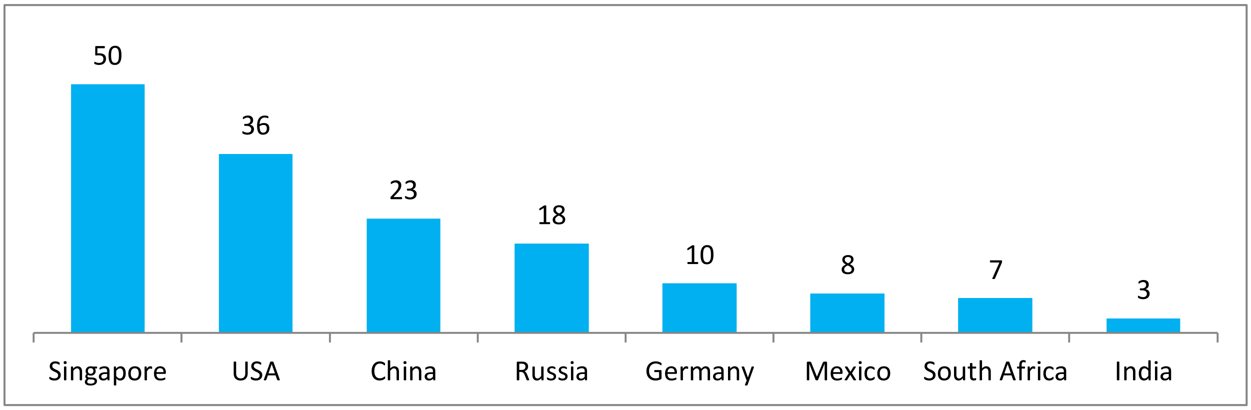


Source: RBI, Secondary Sources

After cash, debit cards are the most used means of payment in India. In India, POS penetration is quite low. As of March 2021, India had 4.7 million POS terminals. In advanced economies like Singapore and USA, the number of POS terminals has witnessed a decline between FY 20 and FY 21. For example, Singapore had 50 million POS terminals and USA had 36 million POS terminals in FY 20. In FY 21, Singapore's POS terminal count decreased to 44 million and that of USA decreased to 31 million. In comparison, emerging economies such as India and Mexico have shown an increase in the number of POS terminals between FY 20 and FY 21.

Debit cards are used as ATM cards in India. As a result of the low POS penetration, debit cards enable rather than replace cash. Debit cards are primarily used to make withdrawals from ATMs; there is a positive association between ATM withdrawals and debit card withdrawals. The use of debit cards for ATM withdrawals is 6.7 times that of POS terminals as of August 21. According to the Worldline India Digital Payments Report for Q1 2021, the number of point-of-sale (PoS) devices installed in India has decreased significantly. From an all-time high of 6.03 million in January 2021, the PoS terminal count had dropped to 4.72 million in March 2021. The drop in in-store shopping has been a major factor in the POS market's downfall. The Reserve Bank of India has calculated the short-run positive elasticity of currency demand in relation to the number of debit cards in circulation.

Exhibit 43: POS Penetration Across Countries, in millions, 2020

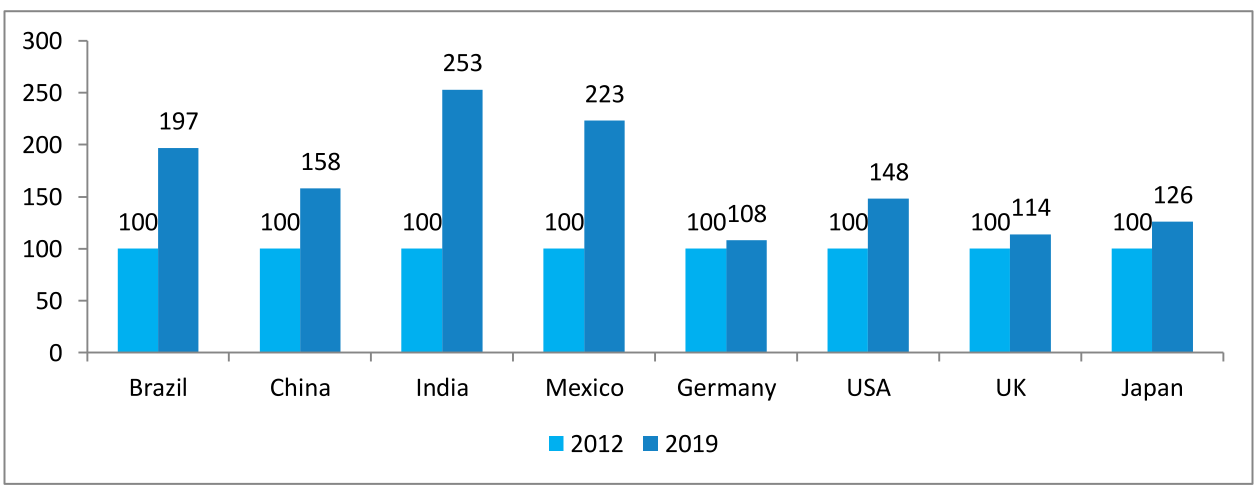


Source: Global Cash Report

2.4. Benchmarking of Volume of Cash in Circulation with Other Countries

CIC is predicted to grow at a robust 10%+ rate in the future, roughly in line with or slightly slower than long-term nominal GDP growth. By 2027, CIC is estimated to reach 50 billion rupees. CIC has increased in developing and emerging nations in lockstep with GDP growth, regardless of whether or not digital payments have been adopted. Cash usage is durable over the world, owing to its relevance in financial sovereignty, as a safe fallback alternative, and so on. Nominal GDP will drive CIC, while low interest rates (anticipated to stimulate borrowing-led investment to raise GDP following COVID) will lower the opportunity cost of keeping cash. According to the RBI's research, there is no strong link between digital payments and CIC.

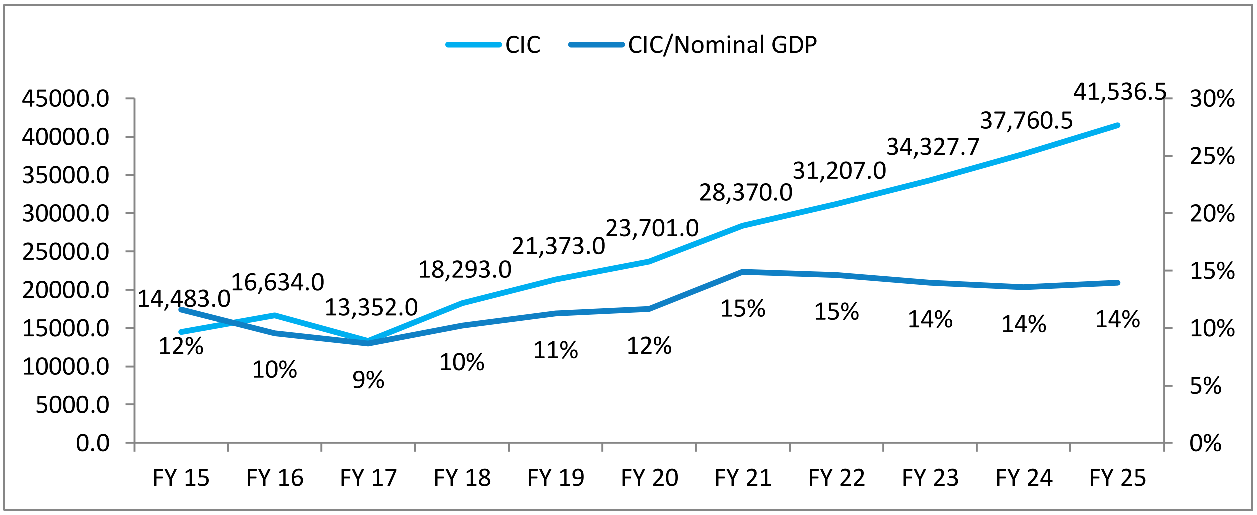
Exhibit 44: Benchmarking of cash in circulation per capita with other countries (adjusted for PPP), 2019



Note: Base year is 2012, which is nominated to 100

Source: Frost & Sullivan, Secondary Sources

Exhibit 45: Growth of cash in circulation(CIC in INR Billions), 2015-24



Note: Data forecast and projections as of Sep 2021

Source: RBI, Frost & Sullivan

- Due to robust macroeconomic fundamentals, the Government of India anticipates nominal GDP to grow at a healthy 12% in the long run (8% real growth with 4% inflation), which is positively associated to CIC.
- Lower income sectors (households that make less than INR 4000 per month),, tier 2+ cities (beyond the top 40), and a substantial share of micro and small merchants who accept only cash account for 70% of India's consumption.
- Interest rates are inversely proportional to CIC because they represent the ‘cost' of having cash on hand. Because of the economic environment and the RBI's inflation targeting policy, India is headed to a lower interest rate environment.
- Although there is an inverse relationship between digital payments penetration and CIC, currency demand elasticity is minimal (0.4 in the short run). Long-term statistical association has yet to be shown conclusively in order to prove that CIC will decrease with the increase in digital payments.
- Cash has traditionally been favored for transactions, but hard assets (cash, gold) have traditionally been preferred as a store of value. Only cash payments are accepted by 55% of merchants. For day-to-day transactions, the semi-urban/rural (SURU) population relies on cash.
- The informal economy accounts for 40-50 percent of GDP and is primarily reliant on cash for transactions. High indirect tax rates (GST 18%) encourage consumers to avoid paying taxes by paying in cash, resulting in an expansion of the informal sector.

2.5. Overview of Currency Chests in India

The RBI is responsible for managing currency in India. The RBI derives its role in currency management on the basis of the Reserve Bank of India Act, 1934.

Major currency operations of RBI happens through the offices located at Ahmedabad, Bangalore, Bhopal, Bhubaneswar, Belapur (Navi Mumbai), Kolkata, Chandigarh, Chennai, Guwahati, Hyderabad, Jaipur, Kanpur, Lucknow, Mumbai (Fort), Nagpur, New Delhi, Patna and Thiruvananthapuram which receive fresh notes from the note presses. Similarly, the RBI offices located at Kolkata, Hyderabad, Mumbai and New Delhi initially receive the coins from the mints.

A chest is a receptacle in a commercial bank to store notes and coins on behalf of the RBI. Selected branches of banks are authorized by the RBI to establish currency chests to facilitate the distribution of notes and coins. Currently, as of March 2021, there are over 4,075 currency chests and 3,746 small coin depots spread throughout the country. The currency chest market reached a size of INR 5 billion in Fiscal Year 2021

Major agencies involved in the whole process of currency printing to distribution are RBI, RBI presses, Government presses, bank chests, mints, police, Ministry of Finance and Railways.

There are four locations where the notes are printed. The Security Printing and Minting Corporation of India Limited (SPMCIL), owned by the Government of India, has facilities in Nashik, Maharashtra, and Dewas, Madhya Pradesh, while the Bharatiya Reserve Bank Note Mudran Private Limited (BRBNMPL), a fully-owned subsidiary of the RBI, has a press each at Mysore in Karnataka and Salboni in West Bengal. Each press serves the areas close to its geographical location. And the coins come from separate mints run by the Corporation in Mumbai, Hyderabad, Kolkata and Noida.

Historically, the operations of currency chests have been managed internally by state-owned banks; however, the operations of currency chests and their cash management needs are expanding, and currency chests are finding themselves in need of further automation and cash management services in order to process cash at lower costs. Although as of March 31, 2020, only 20% of the currency chests were outsourced for currency processing

Exhibit 46: Overview of Currency Chests in India, 2021

Category	No. of Currency Chest	No. of Small Coin Depot
SBI	1,965	1,689
Nationalised Banks	1,180	908
Private Sector Banks	206	168
Co-operative Banks	8	7
Foreign Banks	4	3
Regional Rural Banks	6	6
RBI	1	1
Total	**3,367**	**2,782**

Source: RBI

The RBI is responsible for issuing, managing, and distributing currency notes and coins in India under the Reserve Bank of India Act, 1934. The currency management process can be explained in the following steps:

- Government of India in collaboration with RBI decides on the denominations of the notes and coins, designing of the notes and the security features for the same.

- The RBI then estimates the quantity of the notes which are needed, denomination wise and places the indent with various presses through government. Then the demand estimation is taken from Indian Statistical Institute which forecasts the demand of currency. And depending on those statistics actual supply of notes as per the denominations is finalized and sent for printing at the designated presses across the country.
- The notes received from the presses are issued and reserved by the RBI offices, which distributes those notes and coins through the specific bank currency chests and coin depots, which are managed by the commercial, co-operative and regional rural banks across the country.
- Bank notes and rupee coins are deposited as well as withdrawn simultaneously in the currency chests on everyday basis to meet the requirement of the bank branch and these types of transactions are called currency transfer transactions.
- Each deposit of currency to the chest reduces the liability and increases the assets of the currency chest. Notes in circulation being the liability of RBI, is adjusted against its asset-liability position centrally for such expansion or contraction.
- Similar process is followed by the authorized coin depots, which are established with certain bank branches. Small coins are minted in government owned mints and issued by Government of India and are distributed by RBI as an authorized agency of the Central Government.

Exhibit 47: Currency Distribution Types, 2021

Pieces in Crores						
Denomination (₹)	**2017-18**		**2018-19**		**2019-20**	
	Indent	**Supply**	**Indent**	**Supply**	**Indent**	**Supply**
1	2	3	4	5	6	7
5	-	-	-	-	-	1
10	424	431	392	429	147	147
20	246	205	5	21	125	134
50	378	279	423	404	240	234
100	807	317	633	641	330	327
200	269	283	262	273	205	196
500 (new design)	921	969	1,169	1,147	1,463	1,200
2000	15	15	5	5	-	-
Total	3,060	2,500	2,888	2,919	2,510	2,239

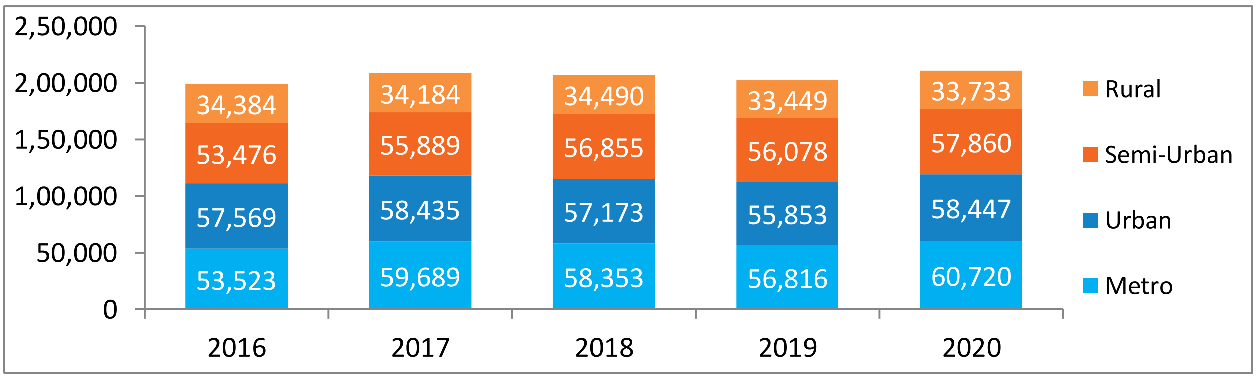
Source: RBI, Secondary Sources

2.6. Region wise ATMs

According to data put out by the RBI, SBI has the highest number of ATMs in the country operating 59,064 ATMs as of March 2021, followed by Axis, ICICI Bank, HDFC Bank and PNB. Majority of the top banks have over three-fourth of their ATMs in urban, metro and semi-urban areas. There are a few banks such as UCO Bank, United Bank, Punjab and Sind Bank that have a higher ~34-38 % of their branches in rural areas.

However, the RBI has been trying to increase the number of ATMs through one of the initiatives, which was to grant licenses to non-bank entities to set up white-label ATMs (WLAs) in the country. The main objective of this is to expand reach of ATMs in semi-urban and rural areas, where banks were not able to put up ATMs. Under the RBI's guidelines, a minimum number of WLAs have to be installed in Tier-III to -IV centres, depending on the scheme opted by each player. The increase in the number of ATMs by regions set up by Scheduled Commercial Banks in India between 2016 and 2020 is set out in the graph below

Exhibit 48: Region-wise ATM Growth in India, CY 2016-CY 2020

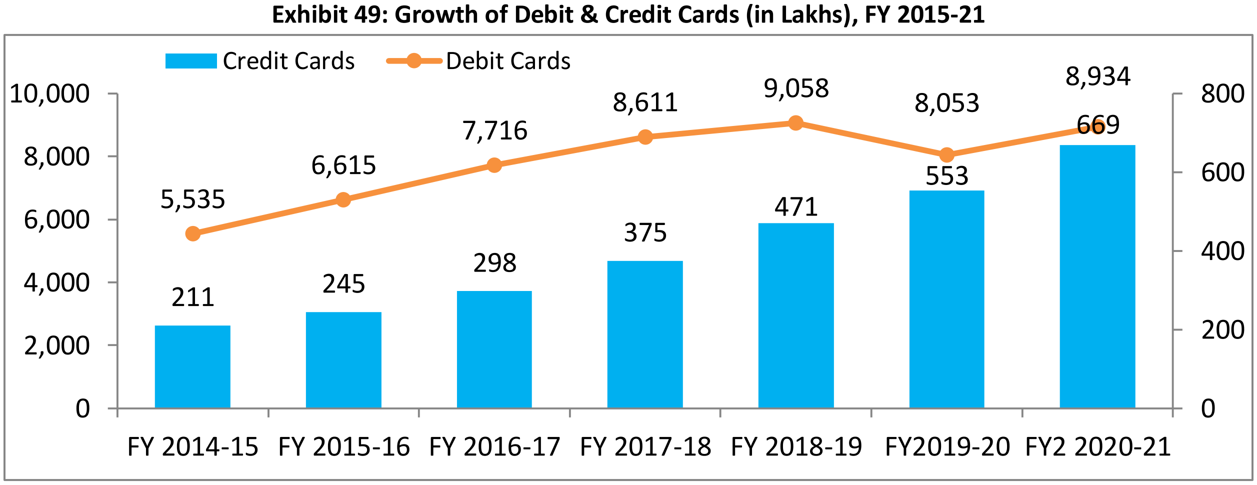


Note: Excludes ATM numbers for Cooperative/Rural Banks and WLA ATMs *Source: RBI*

2.7. Share of Credit Cards and Debit Cards Issued in India

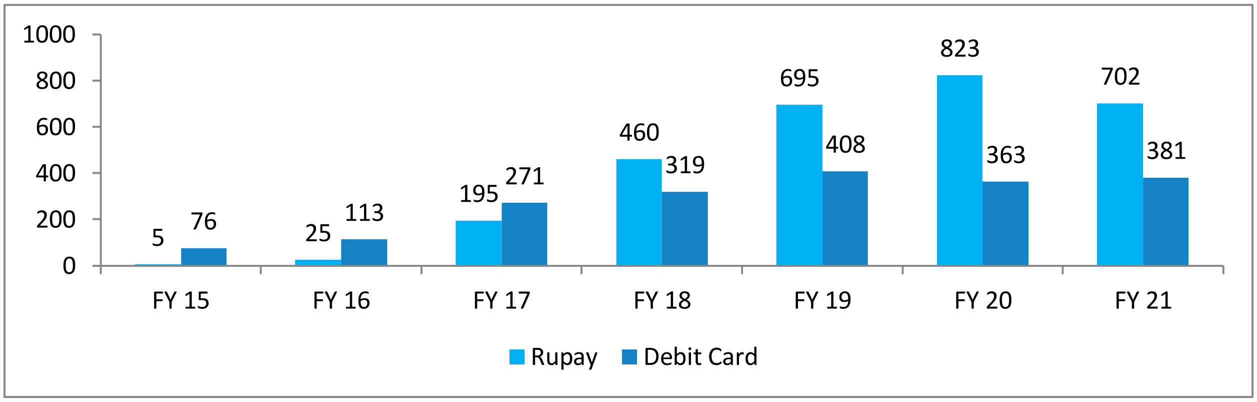
In general, India has been a debit card market, with over 855 million debit cards in circulation compared to just over 55 million credit cards. This is due to the perception of credit cards as a "foreign consumer product" designed for the ultra-wealthy. In India, the first credit cardholders were mostly persons who had traveled or lived overseas and were thus familiar with the credit card system's operation. Apart from banks, a slew of fintech companies have sprung up in this market, fueled by the digital India movement and a growth in urban spending in India.

Exhibit 49: Growth of Debit & Credit Cards (in Lakhs), FY 2015-21



Source: RBI, Secondary Sources

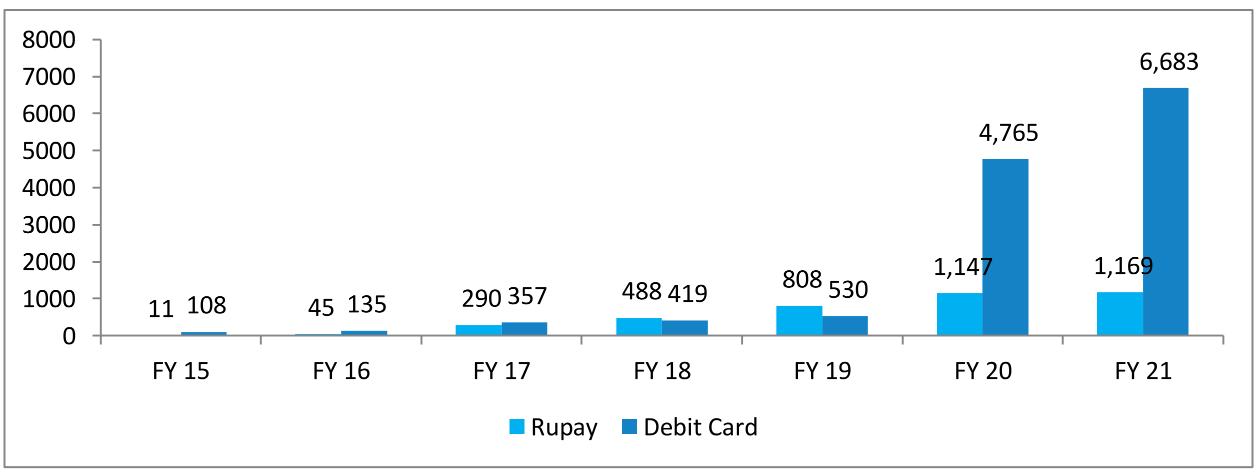
Exhibit 50: Rupay Vs Other Debit Cards - Transaction Volume at POS, in millions, FY 2015-21



Source: RBI, Secondary Sources

Approximately 603.6 million RuPay cards have been issued by roughly 1,158 banks as of November 2020. However, debit cards account for the vast majority of these, with credit cards accounting for only 970,000. Rupay cards outperform other debit cards by volume used at POS terminals. While debit cards are increasing, the reduction of usage at POS terminals indicates that they are used more at ATMs and this trend will continue in the future.

Exhibit 51: Rupay Vs Other Debit Cards - Transaction Value at POS, in millions, FY 2015-21



Source: RBI, Secondary Sources

2.8. Card Personalization

Growth in penetration of credit and debit card growth are helping financial institutions connect with customers in new ways. Financial institutions are looking to identify differentiators that will help them mitigate competitive challenges. Customized marketing programs by banks and other financial institutions are bringing a powerful change in the customer behavior. Technological advancements are presenting new opportunities for such customized marketing tools and empowering card issuers to apply personalized marketing principles.

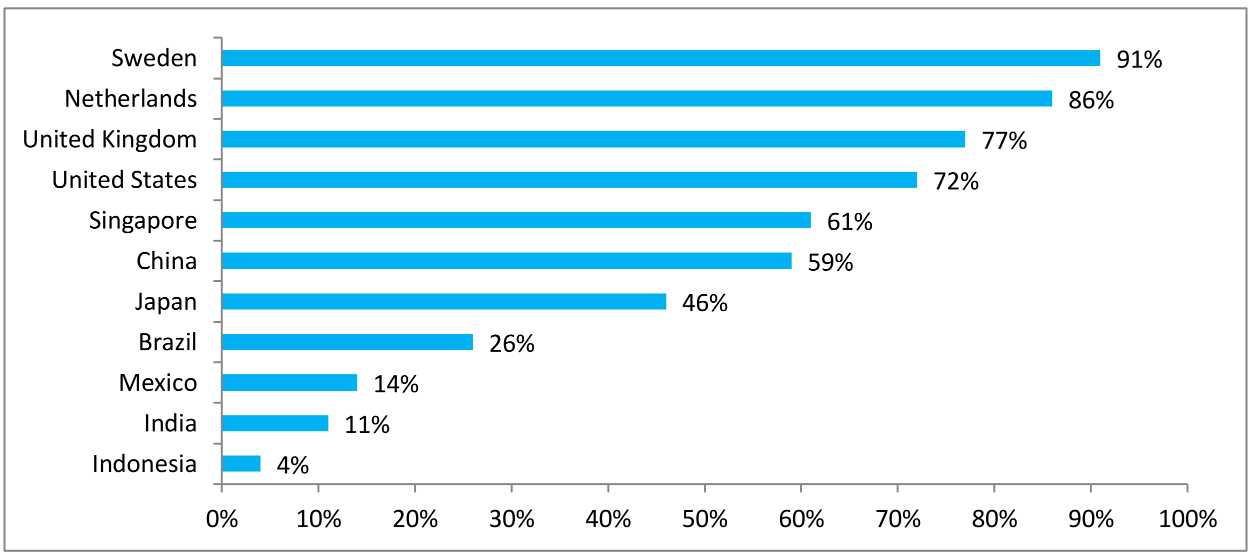
In India, customers often make decisions based on price, yet empowering a customer with customization has proven successful. Banks and other card issuers are beginning to understand the power of personalization as a true differentiator with its ability to attract and retain new customers and fully engage card holders. Banks have now evolved from offering a choice from pre-printed cards, to allow cardholders to provide personal photos or artwork that can be used to create financial cards. Survey by Entrust Datacard reveals that "Highly personalized financial cards increase cardholder acquisition rates by an average of 15% and drive a 50% — or greater — increase in card activation rates." According to the study, other benefits of card personalization, include – 10% average increase in balance; 20% average general increase in card use and a 3% increase in cardholder retention.

Overall, there is a large market opportunity for card personalization with India having one of the largest debit and credit card bases globally, with over 850 million debit cards and more than 55 million credit cards. Existing cards will need to be upgraded for security features/refreshed while new cards will have to be issued with new bank account openings thereby driving the market opportunity for personalization.

2.9. India Compared to Top 10 Cashless Countries across the World

Indian economy has 11% non-cash transactions vis-à-vis that of Brazil which has 26% and China which has 59%. However, the government through its push towards becoming cashless (via initiatives such as Digital India), bring in financial inclusion (banking can reach the remote rural areas of the country) and ramp up infrastructure (enablers), is attempting to transition from its current cash-intensive status.

Exhibit 52: % of Non-Cash Transactions Across Countries, 2020

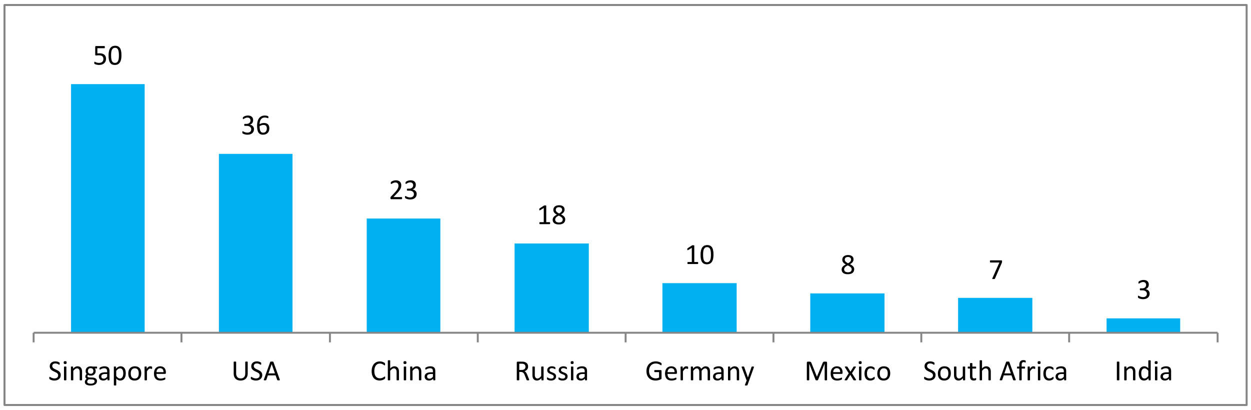


Source: Frost & Sullivan, Secondary Sources

2.10. POS Penetration cross Country Comparison

At a merchant location, POS devices are utilized to receive payments. Acquirers put up these terminals at a merchant's site, and they can accept payment via cards or other methods. As more cards have been issued, the acceptance infrastructure has expanded as well. Despite the fact that India's POS infrastructure has more than doubled in the last five years, availability remains low. According to RBI, acceptance infrastructure, such as POS terminals, mobile POS, and asset-light terminals, accounts for a small percentage of total debit and credit card usage.

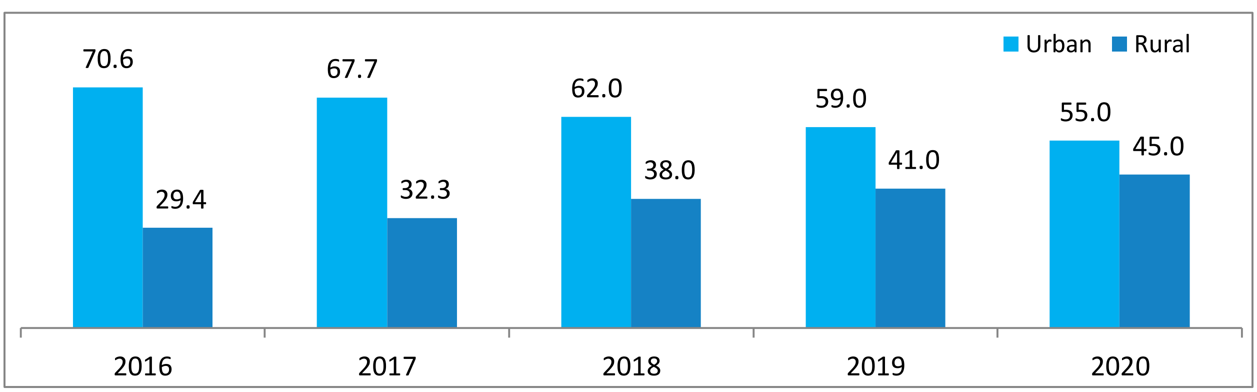
Exhibit 53: Number of POS Terminals (per 1000 people), 2020



Source: RBI, Bloomberg, Secondary Sources

According to a report by IAMAI, India's active internet users (AIU) will likely increase by 45 percent by 2025 compared to 2020. From roughly 622 million in 2020, the number of AIU in the country is predicted to rise to 900 million by 2025. Despite the fact that urban internet penetration is more than twice that of rural areas, rural internet users have been expanding at a quicker rate year over year in 2020 due to a higher adoption rate. According to the survey, the rate of internet adoption in India's rural areas has increased by 13% to 299 million internet users in the last year, accounting for 31% of the country's rural population. In urban India, however, internet users increased by 4% to 323 million in 2020, accounting for roughly 67 percent of the urban population.

Exhibit 54: Percentage split of internet users in India, 2021

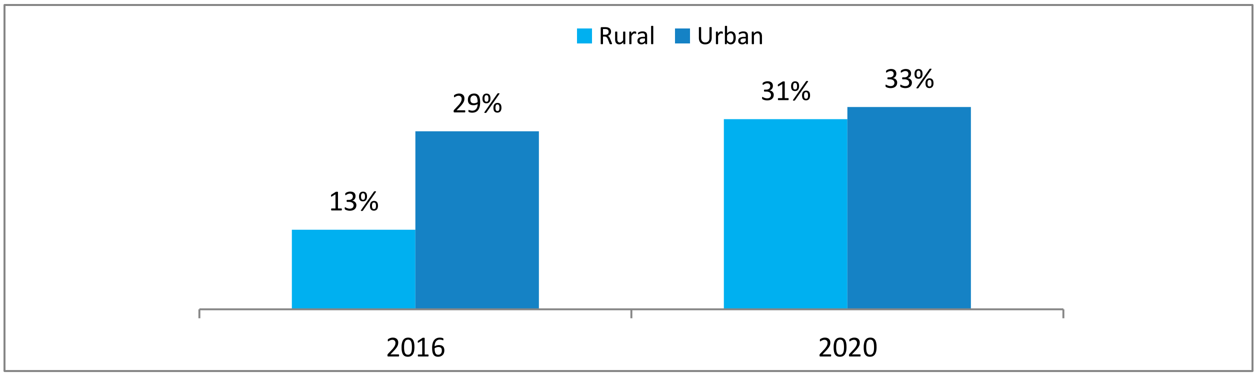


Source: TRAI

2.11. Smartphone penetration by region

In the next two years, India's smartphone population is expected to reach 820 million, allowing for an 80 percent increase in efficiency and an 8-fold reduction in processing time for e-government services. Smartphones have also been critical to the government's reaction to the COVID-19 problem, allowing it to reach citizens across the country through apps like Aarogya Setu, which has over 13 crore downloads and is available in 12 Indian languages. In the calendar year 2019, Samsung dominated the smartphone installed base with 34%, followed by Xiaomi with 20%, Vivo with 11%, and OPPO with 9%, respectively.

Exhibit 55: Smartphone Penetration By Regions, India, 2021



Source: IBEF, TRAI

3. ATM Market

3.1. ATM Market

ATM market refers to the services associated with deployment, management, replenishment of ATMs, and offering software solutions. We will be discussing cash management as part of the Cash Management Market chapter (Chapter 6) and managed services, automation solutions, and software technology as part of the Managed Services market chapter (Chapter 4)

Exhibit 56: Value Chain of ATM, India, FY 2021

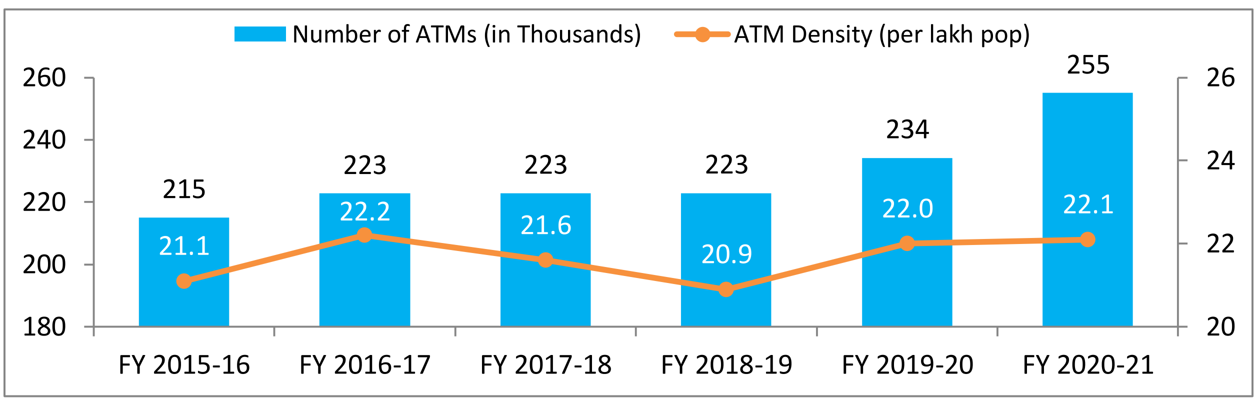
	Cash Management	ATM Managed Services	Automation Solutions	Software & Technology
Description	Involves all cash management services across segments: **ATM**: Cash replenishment for ATMs and first line maintenance services **RCM**: Cash pick-up and treasury solution for retailers **DCV**: Operating cash vans for banks for inter branch cash movement	Involves all services related to end-to-end management of ATMs including product deployment, AMC, and BLA	Involves sales and deployment of automation product (ATMs, kiosks, passbook printers etc.)	Involves development, customization and deployment of software Also includes endpoint security solutions and remote monitoring
Key Players	– **ATM**: CMS, WSG, SIS, Brinks, Securevalue, AGS	CMS, Hitachi, FIS, NCR, FSS, Euronet,	CMS, NCR, Hitachi,	**Software**: CMS,

	– **RCM**: CMS, Radiant, WSG, Brinks – **DCV**: CMS, SIS, Checkmate	Diebold Nixdorf	OKI	NCR, KAL **Remote Monitoring**: CMS, Securens, Ivis

Source: Frost & Sullivan

ATM deployment in India witnessed a slowdown after the government announced demonetization in 2016-17. Following this, several factors, including PSB consolidation, RBI mandate to improve PSB balance sheets, which resulted in a reduction in expenditure, including ATM deployments, have all contributed to a halt in ATM deployments in India. The demand for cash and cash-related services in India has increased; banks and other participants in India are deploying more ATMs, which is reflected in the increase in the number of ATMs in India from 223,000 in Fiscal Year 2019 to approximately 255,000 in Fiscal Year 2021, a CAGR of 6.93%. As of March 2021, India had 255,000 ATMs with a density of 21 ATMs per lakh adults in the country.

Exhibit 57: ATM Growth & Density in India, 2015-2021

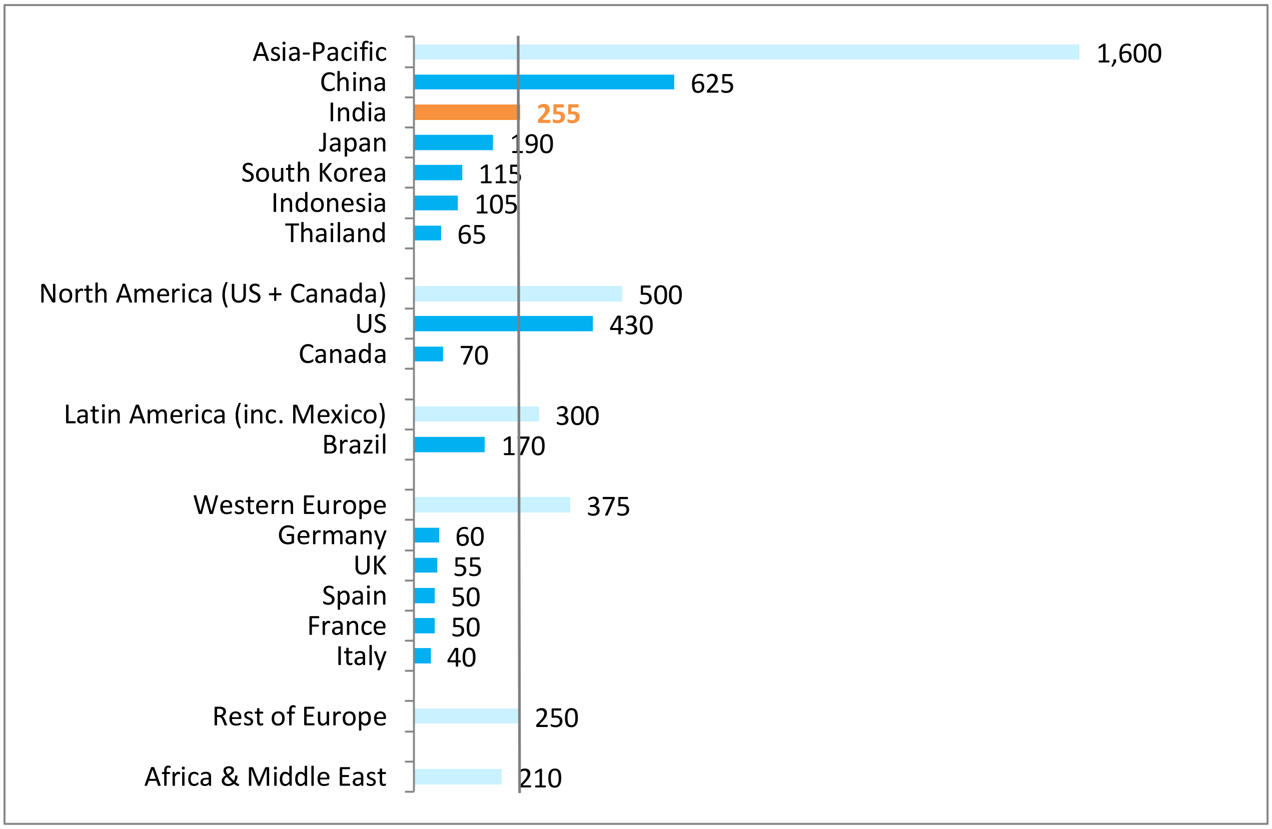


Note: Data forecast and projections as of August 2021

Source: RBI, Secondary Sources

India has a higher proportion of ATMs as compared to some of the global regions. For instance, number of ATMs in India (255K) is approximately equal to the combined total of all the ATMs in Germany, UK, France, Spain and Italy. India also has a higher number of ATMs deployed in comparison with that of the MEA region.While India has a significantly higher number of ATMs due to a larger population base, the country is significantly underpenetrated on a per capita basis.

Exhibit 58: ATM Deployment Across Regions & Countries, 2020 ('000)

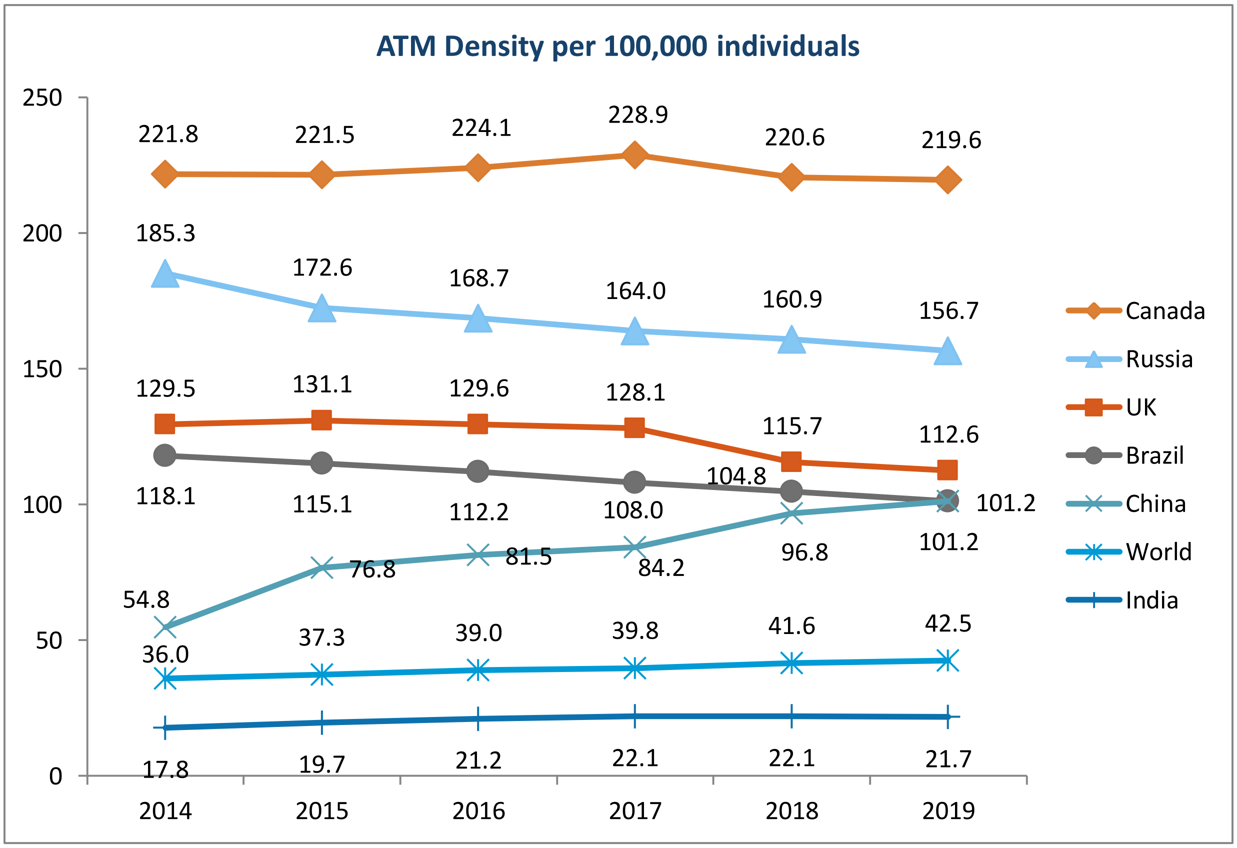


Source: Outlookworld,FISGlobal

3.2. Benchmarking of ATM penetration with other countries

India falls behind most markets such as US, UK, other BRIC countries in terms of ATM penetration. India has one of the lowest ATM penetration rates in the world, with only 22 ATMs per 100,000 adults, compared to a global average of 47 ATMs per 100,000 adults as of 2020. In 2021, India had 21 ATMs and Canada had 214 ATMs per 100,000 adults. Despite India having one of the lowest ATM penetration rates in the world, India is the third largest ATM market in the world based on number of installed ATMs, after China and the United States, and is expected to grow at a CAGR of 6.16% from 255,000 as of March 31, 2021 to 365,000 as of March 31, 2027.

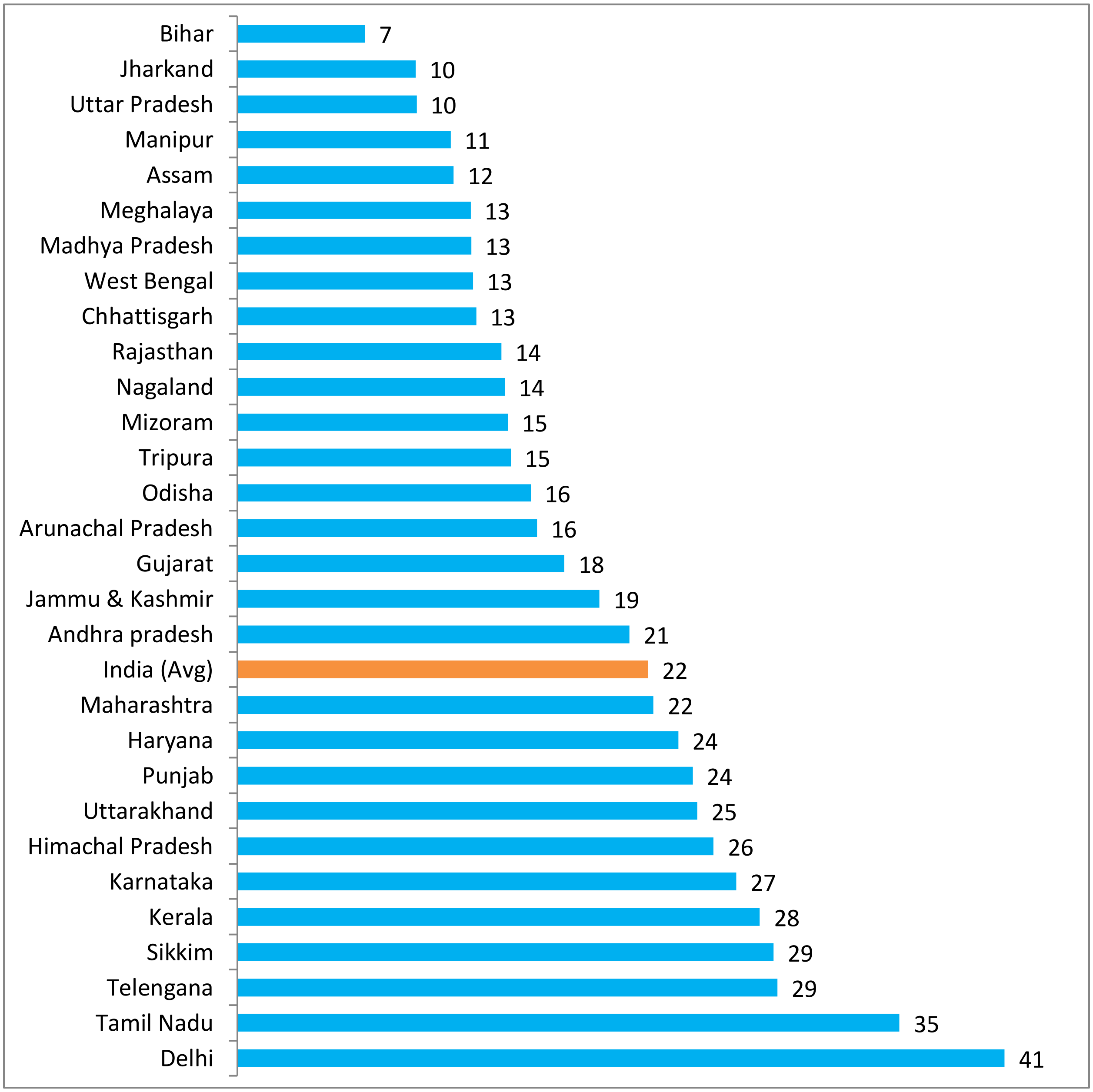
Exhibit 59: ATM Density per 100,000 individuals, 2014-2019



Source: RBI, Secondary Sources

In India, ATM penetration is disproportionately concentrated in urban regions compared to rural areas. According to data from SDG Niti Aayog, Delhi had the most ATMs per lakh population (41), followed by Tamil Nadu (35) and Telengana (29). The current demand-supply mismatch in India creates a big opportunity for the banking industry in rural and semi-urban areas. Millions of rural consumers now have a debit card and a bank account thanks to the rapid rise of Jan Dhan Yojana accounts and RuPay cards and hence with a focus on such rural areas, ATM penetration across Indian states is expected to increase in the upcoming years.

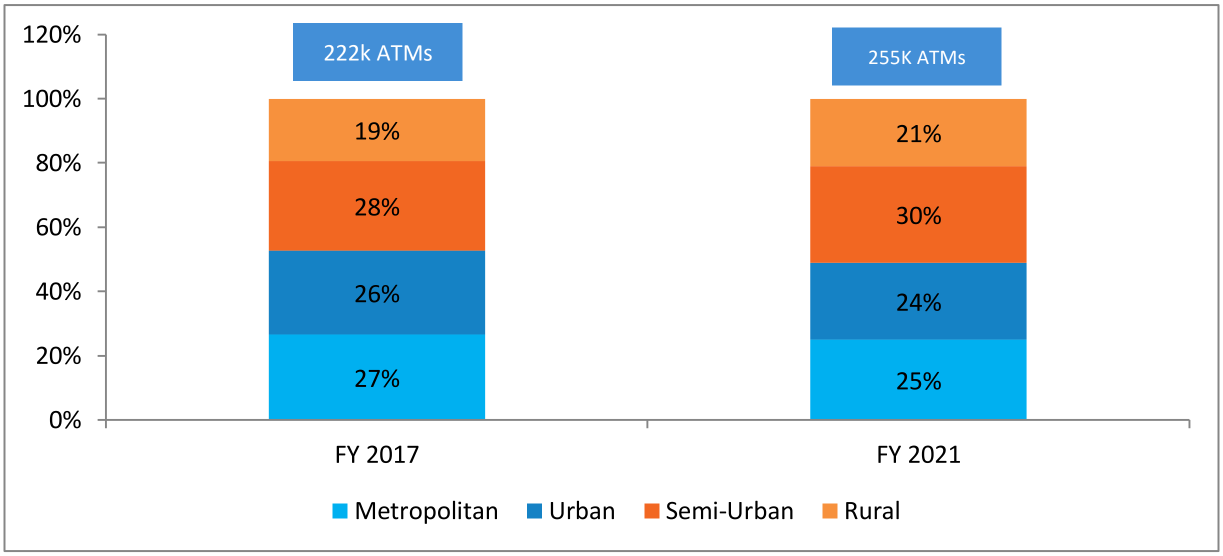
Exhibit 60: State-wise ATM penetration, 2020 (ATMs per lakh individuals)



Source: Niti Aayog, SDG Data

While ATM availability is limited throughout India, ATM penetration is disproportionately concentrated in urban regions compared to rural areas. For instance, 65% percent of the population lives in rural areas, with just 51% percent of ATMs deployed in semi-urban and rural areas, and the rest in metro and metropolitan areas. According to data from SDG Niti Aayog, Delhi had the most ATMs per lakh population (41), followed by Tamil Nadu (35) and Telengana (29). The current demand-supply mismatch in India creates a big opportunity for the banking industry in rural and semi-urban areas. Millions of rural consumers now have a debit card and a bank account thanks to the rapid rise of Jan Dhan Yojana accounts and RuPay cards, but many lack basic infrastructure such as an ATM to utilize them effectively.

Exhibit 61: ATM distribution by Geo mix, 2017-2021

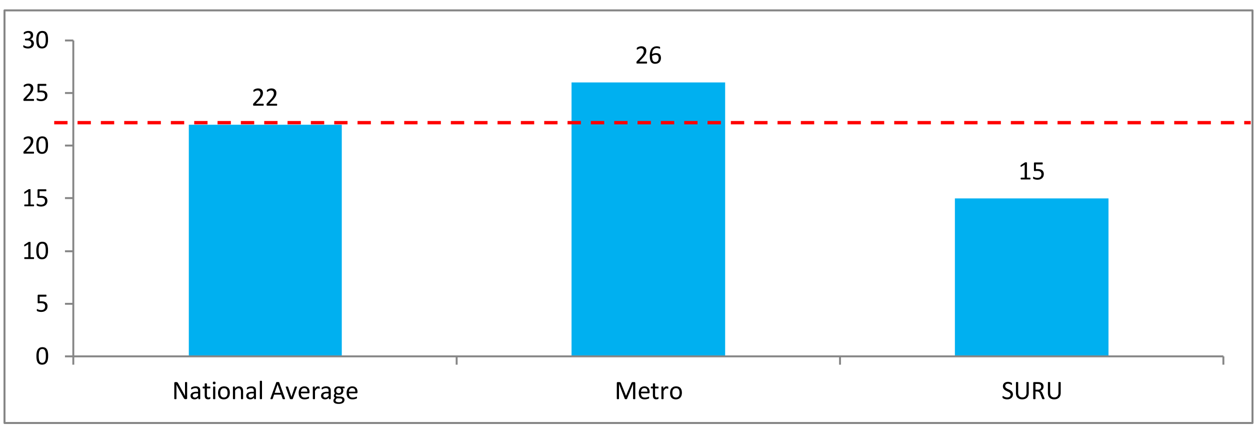


Note: Data forecast and projections as of August 2021

Source: RBI, Frost & Sullivan

The ATM penetration is uneven across tier 1 metro cities/urban areas and the lower tiers (SURU regions). Compared to the national average of 22 ATMs per lakh population, metro regions have a higher ATM penetration of 26 per lakh population. But the SURU region is severely underpenetrated with a rate of 15 ATMs per lakh population and presents itself as an opportunity zone for ATM deployments.

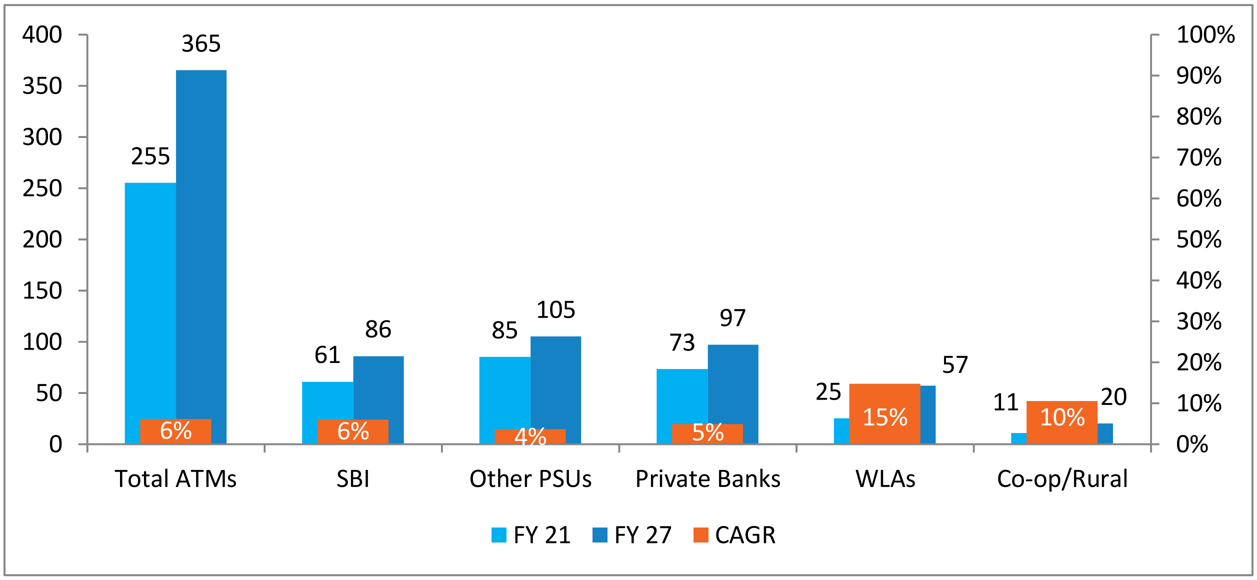
Exhibit 62: ATM Penetration in India by Geo mix (Number of ATMs per lakh population), 2020



Source: RBI

The ATM deployment rate is highest for WLAs, and Cooperative & Regional rural banks Zas witnessed by an estimated growth rate of 15% and 10% CAGR between FY 2021 and FY 2027. The increase across cooperative & regional banks corresponds to the latent potential available for ATM deployments in the rural regions, as well as a relatively high share of DBTs and inflow of money towards Jan Dhan accounts. This is predominantly owing to the potential increase in the ATM penetration across the lower tiers in the country, the increased competition from WLA participants owing to a rise in the market potential and the financial inclusive measures taken by the government to focus on the rural sector.

Exhibt 63: ATM Deployment Across Bank Branches (in 000s), Growth Rate (%), FY 2021-27 (in 000s)



Note: Data forecast and projections as of Sep 2021

Source: RBI, Secondary Sources

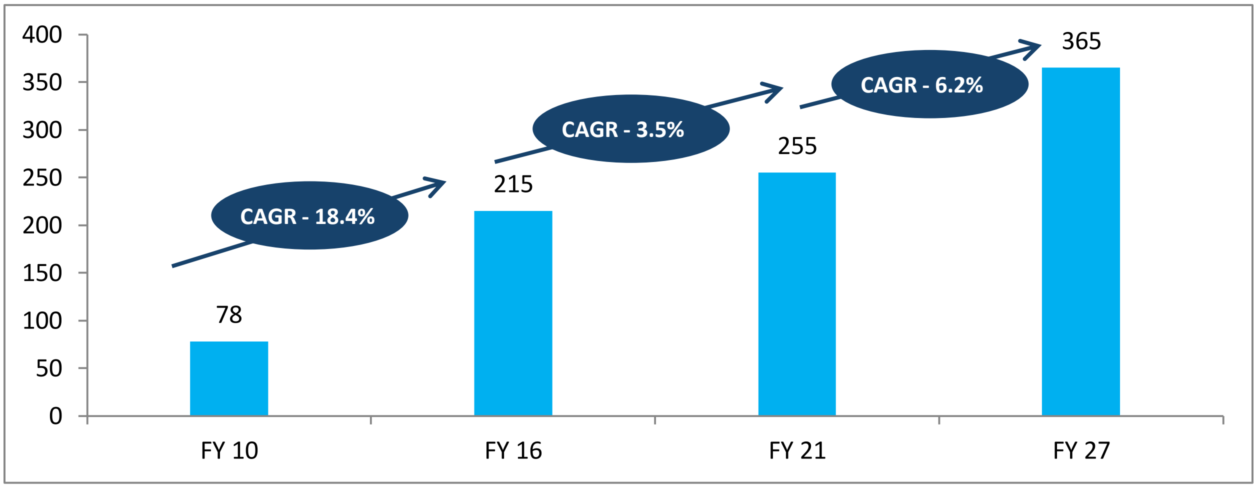
Since the November 2016 demonetization of high-value currencies, many million people have entered the banking system by opening new accounts. The government's decision to direct welfare payouts to people's accounts has boosted the number of new bank accounts. India remains one of the countries with the lowest ATM penetration.

The Reserve Bank of India (RBI) implemented a number of actions in 2019 to increase white-label ATMs (WLAs). They could borrow money from the RBI and currency chests, as well as get cash from any scheduled bank. The RBI also gave these WLAs permission to exhibit advertisements on their premises. With the objective to minimize the concentration risk in the market of retail payments, the RBI issued an on-tap authorization, in 2019, for WLA operators to encourage innovation, interoperability and competition. WLA Operators are required to deploy ATMs in the ratio of 1:2:3 for Metro & Urban, Semi-Urban, Rural regions respectively.

Since 2017, public sector banks have issued over 500 million debit cards in the Jan Dhan scheme and deposited INR 8 lakh Crore, as direct benefit transfers (DBT), in semi-urban and rural bank accounts. However, there is a huge pent up demand owing to the stagnation of the ATM base. Bank mergers and balance sheet clean-ups have had a mostly positive impact. PSBs are resuming expansion after a period of stagnation as evidenced by the recent RFPs for ATM implementation – another evidence that supports the claim for an increase in ATM deployments.

Although increasing adoption of digital payment modes, increased penetration of POS terminals and the rise of e-commerce, threaten the growth of ATM deployment, the industry participants are optimistic about the future of ATM market in India. The market is expected to grow with the help of demand in the Tier II and III regions and with replacement demand. The increase in ATM interchange also has the potential to push ATM deployments, WLAs. Bank mergers & balance sheet cleanups have largely materialized and as PSBs are returning to expansion mode - substantiated by recent RFPs for ATM deployment, the pent-up demand for ATMs in India is expected to be addressed.

Exhibit 64: Number of ATMS across India 2015-2021, CAGR FY 2016-2027 (in 000s)

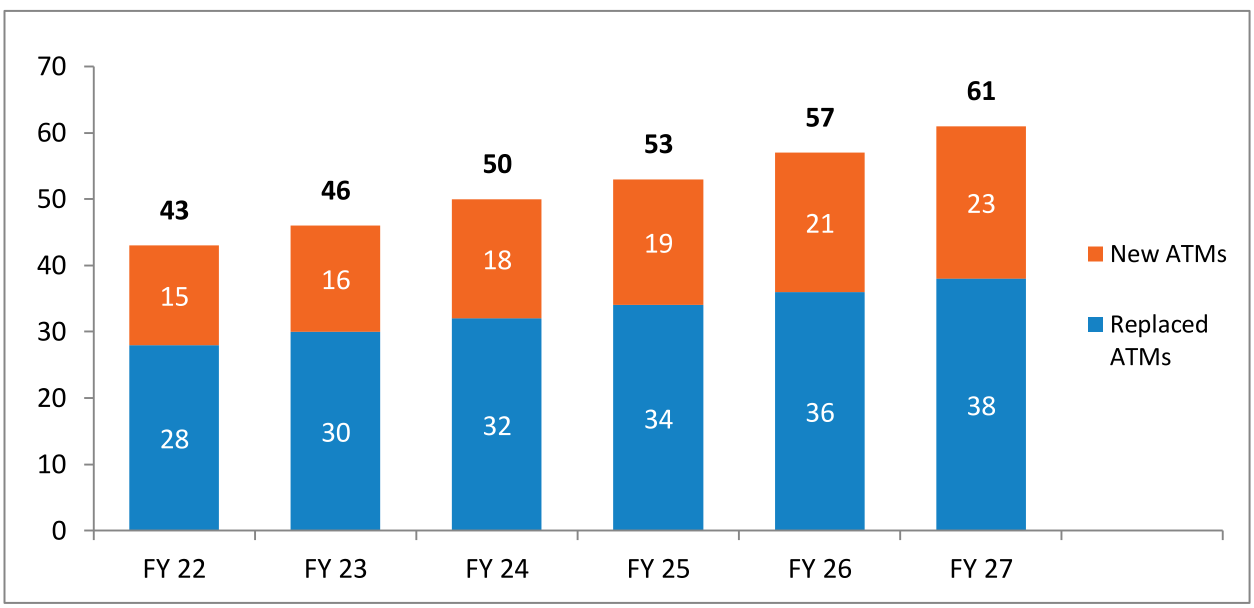


Note: Data forecast and projections as of August 2021

Source: RBI, Frost & Sullivan

In the next six years, approximately 110,000 new ATMs will be cumulatively added, with an additional 198,000 replacement demand; more than half of these will be deployed under the BLA model. 365,000 ATMs are likely to be installed, driven by pent-up demand and the need to address under-penetration in SURU, as well as a shift from capex to opex based deals for banks (e.g., BLAs), and with additional upside expected given the increase in interchange fees. The total ATMS (incremental requirement) is expected to increase from 43 thousand in FY 2022 to 61 thousand in FY 2027, predominantly driven by the replacement of ATMs. In order to address this demand for new and replacement ATMs, banks would prefer to have a BLA operational model – one that can reduce CAPEX costs as well as ensure that the demand for the market is met. This is one of the key drivers for the BLA market which is expected to grow from 86,000 ATMs in FY 2021 to 180,000 ATMs by FY 2027.

Exhibit 65: New and Replacement ATM growth, FY 2022-27 ('000)



Note: Market size estimates are as on March 2021

Source: RBI, Frost & Sullivan, Secondary Sources

3.3. Market drivers & restraints

Market Drivers

- **Highly underpenetrated market**: In order to achieve an ATM penetration of 50 per lakh people, India needs to add 400K ATMs (2.5X the current base) (Mexico at 62 per lakh population & Indonesia at 55 per lakh population). The under-penetration is more pronounced in the SURU areas where the ATM density is approximately 15 per lakh population. Considering this, there is a large headroom for growth with respect to ATM deployments in India.

- **Need to Address Pent-up Demand**: Since 2017, public sector banks have issued over 500 million debit cards in the Jan Dhan scheme and deposited INR 8 lakh Crore as DBT in semi-urban and rural bank accounts. However, there is a huge pent up demand owing to the stagnation of the ATM base. PSBs are resuming expansion after a period of stagnation as evidenced by the recent RFPs for ATM implementation support this theory.

- **Proven Success of BLA deployments**: Given the demonstrated successful use cases of BLA deployments, PSBs are eager to move away from capex-based ATMs. SBI, Bank of Baroda , and Bank of India have, in the last 18 months, issued BLA RFPs for over 20,000 ATMs and other banks are expected to follow suit.

- **Increase in Interchange**: Interchange fees for financial transactions through ATMs increased from INR 15 to INR 17 starting August 1st, 2021. WLA operators with a 15 percent annual growth and net acquirer banks' business models will benefit the most from the policy change. Overdue replacement cycles will be expedited owing to the interchange increase as operators will look to capitalize on revenue generation through increased deployments.

Market Restraints

- Digital Transformation (Digi-wallets and Funds transfer) – Increased penetration of mobile banking, and other forms of digital payments are hampering the growth of ATM deployment. Banks are considering digital transformation to curtail cost of cash operations and also to connect with a larger base of customers and provide services at low cost. However, this is restraining the growth (of ATMs) only in the urban areas where the population has access to digital platforms. Hence, new ATM deployment in Tier II and III cities will continue unchallenged.
- Branch rationalization by some PSBs is another factor restraining the growth of ATM deployments. In the first half of FY2018, SBI acquired five banks and a local lender and 1,000 branches (of these acquired entities were closed).
- The e-commerce sector in India has been witnessing a healthy growth in the last few years. As digital transactions continue to increase within the e-commerce sector, the demand for cash payments will experience a slight decline but will remain the dominant payment mechanism.

Impact of RBI operating standards

In April 2018, RBI introduced certain minimum standards for Service Provider and sub-contractor engaged in Cash Management activities due to the increasing reliance of banks on outsourced service providers.

Key Eligibility Criteria is as follows:

- Minimum net worth requirement of INR 1 billion should be maintained at all times by service providers
- Minimum fleet size of 300 specifically fabricated cash vans (owned / leased)
- Each cash van should be a specially designed and fabricated Light Commercial Vehicle (LCV) having separate passenger and cash compartments, with a CCTV covering both compartments.
- Each cash van should be GPS enabled and monitored live with geo-fencing mapping with the additional indication of the nearest police station in the corridor for emergency
- Each cash van should have tubeless tyres, wireless (mobile) communication and hooters

Currently, compliance is at <10% nationally and is expected to grow to 95%+ by 2024 due to expected RBI penalties. The realization for compliant ATMs is expected to increase by INR 2,800 – 3,000 per ATM per month on the basis of an expected increase in the share of compliant vans (approximately 75% of all vans are expected to be compliant by FY 27).

Impact of Cassette Swap Implementation

In 2018, the RBI recommended the use of cash replenishment with a 'cassette swap' model in order to mitigate risks associated with open cash replenishment. The implementation is to be done in a phased manner with an initial deadline of March 31st, 2021. Following difficulties in implementation of the lockable cassette system by banks due to significant capex requirements, RBI has extended the timeline for implementation of the 'cassette swap' model in all ATMs to March 31st, 2022. Presently, cassette swapping penetration is 3% and is expected to grow to 55% in FY27 in line with increase in new and replacement ATMs. The implementation of cassette swap is estimated to increase realization per ATM by INR 1,000 per month for ATM Cash Management companies.

Impact of increase in ATM interchange

The ATM interchange fee is paid by the bank that issues the card to the bank whose ATM is used to withdraw cash. Issuer is the bank of the card holder's account from which the funds are drawn to pay for card-based transactions. An acquiring bank is the merchant's bank. It accepts payments for the merchant through the payment processor and card network. This fee is split between the acquirer and the company that maintains the ATM, which is why banks discourage their clients from using non-bank ATMs. The Reserve Bank of India (RBI) approved an increase in the interchange fees for financial transactions through automated teller machines (ATMs) from INR 15 to INR 17 in June 2021. The costs for non-financial transactions have been raised from INR 5 to INR 6. From August 1, 2021, the new costs has come into effect. The interchange fee structure was changed after 2012, and the customer charges were last changed in August 2014. The new costs were approved by the central bank based on the recommendations of a committee appointed two years ago to look into ATM and interchange fees. The charges have been allowed to rise due to the rising cost of ATM deployment and expenses for ATM maintenance borne by banks/white label ATM operators, and the need to balance stakeholder expectations and user convenience, according to the RBI.

- The increase in interchange could accelerate ATM deployment by banks, particularly those that are net issuers in the current scenario such as SBI and other select PSUs.
- The BLA model could become a preferred model of deployment to address a potential increase in demand and owing to the reduction in the number of transactions required to break even.
- The increased interchange charge may encourage ATM operators to expand into semi-urban and rural areas. Interchange fee increases will greatly benefit WLAs, with a possible revenue boost of 15-20%. There are WLA licenses available on-tap, which could stimulate more participation from operators trying to enter the WLA space.
- More ATMs in such areas (SURU) could help the RBI and the government, achieve their financial inclusion goals.
- This is expected to encourage banks and white label ATM providers to install more cash dispensers, benefiting rural areas in particular. There were 25,013 white label ATMs, which were set up, owned, and operated by non-banks. India's rural areas are home to 20% of the country's ATMs. As the interchange grows, it is expected that private ATM deployers as well as banks will benefit, and ATM services will become more widely available in India's unbanked areas.
- As the interchange hike provides a momentum to the ATM deployment, it also creates a compelling case for adhering to compliance guidelines outlined by the RBI. As the penalty for non-compliance becomes severe, operators who want to capitalize on the interchange increase will have to ensure that the minimum compliance requirements are satisfied to sustain in the market.

WLAs to Drive ATM Penetration:

The RBI had approved the establishment of White Label ATMs (WLAs) to improve financial inclusion and drive ATM penetration in the country. WLAs allow private non-bank enterprises to set up and run their own brand of ATMs in the country. A non-bank entity with a net worth of at least INR 100 million can apply for a WLA license. The main goal of allowing non-banks to operate WLAs was to increase the number of ATMs in semi-urban and rural areas, particularly in Tier III to VI areas where the bank-owned ATM network was stagnant. Currently the number of WLA ATMs stand at approximately 25 thousand in FY 2021 and is expected to reach over 57 thousand by FY 2027.

WLAs are linked to the National Financial Switch (NFS) of the National Payments Corporation of India (NPCI), which implies that WLA services are available to customers of any bank. WLA Operators manage and run ATMs, as well as the infrastructure and cash requirements for the ATMs, allowing basic banking services to be provided.

More ATMs are needed in rural areas as part of the government's financial inclusion programs, such as the Jhan Dhan Yojana and other Direct Benefit Transfers (DBT). Because consumers get government subsidies in the form of direct cash transfers to their bank accounts, ATMs are a critical point of contact for quick access to cash. White Label ATMs, in fact, can provide much-needed infrastructure, complementing a variety of government activities.

Despite numerous efforts, a major portion of the rural population continues to be underserved. This presents a unique opportunity for WLAs to expand their operations in the next years, potentially reaching millions of new customers and contributing to the financial inclusion agenda.

3.4. Impact of Covid-19

- During the initial phase of COVID-19, people all over the world were skeptical about the transmission of the virus through banknotes. But such concerns were quickly alleviated by the World Health Organization (WHO) that was quick to admonish the false claim and provided a sense of security with respect to cash transactions.
- Another key observation was with respect to the significant increase in the CIC for India, which saw an expansion of 19.8% in FY 21 as compared to a 10.8% growth in FY 20. Such an increase in CIC stems from the tendency to hoard cash during times of uncertainty to meet liquidity requirements. This shows that currency is still considered as a store of value during volatile situations and this trend is expected to continue.
- As most of the businesses faced a slowdown in operations owing to multiple lockdowns during the initial phases of COVID-19, the Indian Government declared cash management as an essential service during such periods. Mobile ATMs catered to providing the citizens with the ability to securely withdraw cash without risking themselves. The vehicles involved in cash management, like DCVs, were permitted even during strict lockdown periods. Cash officers were instructed to use sanitizers while handling cash and ATMs, which also included the wiping of the keypad of ATMs after filling them with cash.
- Few states have also categorized ATM maintenance personnel and banking correspondents as frontline workers and have prioritized their vaccination, in an effort to appreciate their service during the COVID-19 period.
- While the initial lockdowns led to a decrease in the cash management market, particularly with the RCM and ATM sector, the situation gradually reversed with recovery near pre-Covid levels seen except for certain sectors such as travel, hotels, discretionary spends etc., which continued to impact the RCM business.
- To adapt to the new normal, several banks are installing new self-service technologies in ATMs, as well as software changes that will improve availability, reduce failure, and reduce support calls. As a result, they can easily handle increased volumes of transactions and cash deposits at the ATM, enhancing their potential to enhance social distance and safer transactions.
- Furthermore, in order to increase dwindling revenues, services providing vital supplies began accepting cash on delivery (E.g. food aggregators, e-commerce players, etc.). Resumption of cash replenishment at offsite ATMs, which had experienced prolonged cash-outs during the lockdown, reopening of bus and railway ticket booking, permission for the resumption of liquor sales, and general uncertainty about lockdown timelines all contributed to an increase in cash withdrawals.

- According to data from the National Payments Corporation of India, digital payments saw a drop in transaction value during the stringent lockdown times of Covid-19 (NPCI). This was mostly due to the direct impact on retail, transport, and other industries.

4. Managed Services Market in India

ATM managed services allow financial institutions to take advantage of dedicated managed service providers' infrastructure, experience, scale, and product portfolio to increase the effectiveness and efficiency of their ATM channels. The managed services component could cover a wide range of services, from specific operational components to end-to-end ATM program management.

As the ATM market continues to shift from bank-managed ATMs to end-to-end deployment by service providers, the business of ATM outsourcing will continue to grow fast in India.

Managed services include products sale and maintenance (ATMs, cash recyclers, automation products), ATM software solutions (multi-vendor software, endpoint security, reconciliation software), Brown-label ATMs service, Pure Managed Services and ATM remote monitoring The managed services market stands at INR 68.1 billion in FY 2021 and is expected to reach a market size of INR 170.9 billion by FY 2027, growing at a CAGR of 16.5%.

Service Components

In terms of service components, the ATM managed services can be broadly classified into the following segments:

- **Product Sales:** Includes the sale of ATM, cash recyclers and automation products such as passbook kiosks, teller cash recyclers (TCRs), cheque/cash deposit kiosks etc. This includes sale of products for new and replacement demand and corresponding annual maintenance costs covering the maintenance expense over the lifecycle of the machine
- **Managed Services:** Primarily includes two operating models:
  - Managed Service Outsourcing:

    A bank rents the location and owns the essential equipment in the managed services model and outsources the service contract of the ATM to a third-party service provider or vendor. Following the outsourcing of services, the bank's role is reduced to delivering cash for ATMs and cash settlements. ATMs that are under the managed services model are typically based on a fixed fee model, in which the bank pays a fixed sum for each service it uses.
  - Brown Label ATM Services:

    Brown label ATMs are branded for a particular bank, but owned, deployed and end-to-end managed by the third-parties. After winning and signing a contract with the bank, the service provider is responsible for finding acceptable ATM locations, assessing them, and eventually leasing them. The bank oversees distributing cash and putting its logo on ATMs, as well as upgrading the devices. Banks pay a fixed monthly amount per ATM or a per transaction fee, depending upon the services included and the arrangement between the bank and the services provider. Cash management, network monitoring, maintenance, security services, rent, electricity, and other back-end managed services are a part of the services offered.

- **ATM Software Solutions:** ATM software includes solutions that can allow banks to take control of their ATM networks to reduce costs, increase functionality and improve competitiveness. Some of the key ATM software solutions include Multi-vendor software, endpoint security, reconciliation software and ATM security management (OTC). Of the mentioned solutions, multi-vendor software is one of the key software solutions and is gaining significant traction in recent times. Using a multi-vendor software (MVS) deployment banks can use the same software application on ATM hardware estates comprising machines from multiple manufacturers. MVS can centralize the ATM Channel Management to a single central command control which can be used to enhance the customer experience as well as ensure the network has the latest security measures. MVS also offers banks the ability to use their ATM channels to customize offers to their customers.
- **ATM Remote Monitoring:** Remote monitoring could include video remote monitoring of sites for surveillance – live and trigger-based; distributed or centralized; typically, a two-way audio mechanism and access to quick response teams. Beyond conventional services remote monitoring could also include other value-added services such as video analytics, customer behavior information, remote camera health monitoring, IoT, etc.

1) Market Drivers and restraints

Market Drivers

- **Financial Inclusion:** The Ministry of Finance has been granting special directives to PSU banks to install ATMs in semi-urban and rural areas, such as rural MP, the North East, and the hinterland of Uttar Pradesh. With a density of roughly 15 ATMs per 1 lakh people, these locations are severely ATM poor. SURU region will have the fastest growth rate of ATMs (4% for rural and 3% for semi-urban) of all the regions. For ATM managed service providers, this can mean interesting opportunities.
- **Overdue Replacement Cycles**: There has been a delay in replacement of legacy ATMs due to issues in the banking sector impacting capex spends. As the number of outdated ATMs increase, consequentially the demand for replacement ATMs will increase that can provide significant opportunities for service providers.
- **Increase in Outsourcing**: New and replacement ATM outsourcing is considerably higher (60-80%) for all categories of banks except Cooperative Banks and Regional Rural Banks. With the exception of a few on-site ATMs that can be replenished efficiently in-house, PSB banks outsource two-thirds of their MS ATMs. Due to synergies within the RCM business, private banks are increasingly seeing the potential in outsourcing. ICICI, HDFC, and AXIS, the big three private banks, have already achieved 90% outsourcing, and the rest of the private banks are anticipated to follow suit. Outsourcing within the WLA space is currently around 60% and is expected to rise as in-house management of a rising ATM base proves to be costly and inefficient.

- **Shift from Capex to Opex Model:** In line with private sector banks, PSU banks are also expected to increasingly deploy ATMs through the BLA model given the lesser capex intensity and faster deployment which should increase the total addressable market for the industry
- **Increase in interchange:** Increase in interchange is expected to drive accelerated deployment of ATMs coupled with higher realizations and better unit economics.
- **Strict ATM Security Requirements:** Following demonetization, the government became more cautious about maintaining ATMs and replacing those that were no longer functional. The Reserve Bank of India has previously issued a directive to speed up compliance for ATMs in terms of operating systems, port deactivation and auto-run, terminal security, and so on.

Market Restraints

- An increase in demand for cashless transactions and digital payments by government and bank will reduce the use of ATMs which expected to hamper the ATM managed services market growth.
- The staggering non-performing assets of PSBs totaling to INR 8.96 lakh crores for FY 2021 has put immense pressure on banks to curtail spending. It is only a temporary phase in the banking sector as banks try to make higher provisioning for bad loans and resort to other measures such as staff hiring, branch rationalization, and reduced capital expenditure. Such measures are expected to negatively impact the cash management and ATM management markets in the near term.
- The recent developments related to consolidation of public sector banks is expected to restrain the market till the time banks rationalize branch and ATM network and re-prioritize their growth plans in the wake of mergers. However, the impact is set to taper off in the long term offering momentum to the growth of the cash management and ATM management markets.

2) Competitive Landscape

The competitive landscape for the ATM managed services in India is dominated by 10-12 companies ranging from software conglomerates to financial technologies solutions to ATM manufacturers. The Managed Services market has both foreign MNCs and Indian companies competing in the space. While there are specialist OEMs as well as MSPs in the market, CMS is one of the few that is present in the entire value chain, including software and technology solutions. The table below displays few of the companies operating in this market along with the number of ATMs under management.

Exhibit 66: Managed Services Competitive Landscape- Service Provision Across Value Chain, FY 2021

Automation solutions				Managed Services			Software and Technology			
Company	**ATM supply**	**Kiosks**	**Installation**	**AMC/ SLM**	**MS**	**BLA**	**Remote monitoring**	**MVS**	**OTC**	**End Pt. security**
AGS	Mainly CDs	-	✓	✓	✓	✓	✓	-	✓	✓
CMS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FIS	-	-	-	-	✓	✓	-	-	-	-
FSS	-	-	-	-	✓	✓	-		-	-
Hitachi	Only CRs	-	Only CRs	Only CRs	✓	✓	Not in-house	-	-	✓

NCR	Mainly CDs	-	✓	✓	✓	-	Not in-house	✓	-	✓
Oki	Only CRs	-	✓	Only CRs			-	-	-	-

Source: Frost & Sullivan, Secondary Sources

- Hitachi Payments: Manages over 63,000 ATMs (including 27,000 Cash Recycling Machines) and 5,800 White Label ATMs, as of August 2021.
- FSS Tech: Manages a network of over 27,000 ATMs, as of August 2021.
- AGS Transact: Manages over 57,000 ATMs and CRMs, as of March 2021.
- FIS: Currently manages 14,000 ATMs across India as of March 2020.
- CMS: Manages over 10,000 Managed Services and BLA ATMs, over 40,000 MVS ATMs, as of March 2021. The company also has an installed base of banking automation products (such as ATMs) that exceed a deployed base of 30,000 such automation products. CMS is also the leading player in the ATM MVS space in India has deployed MVS across more than 40,000 ATMS of SBI.

Sources: Company Websites, Other secondary Sources

ATM Remote Monitoring

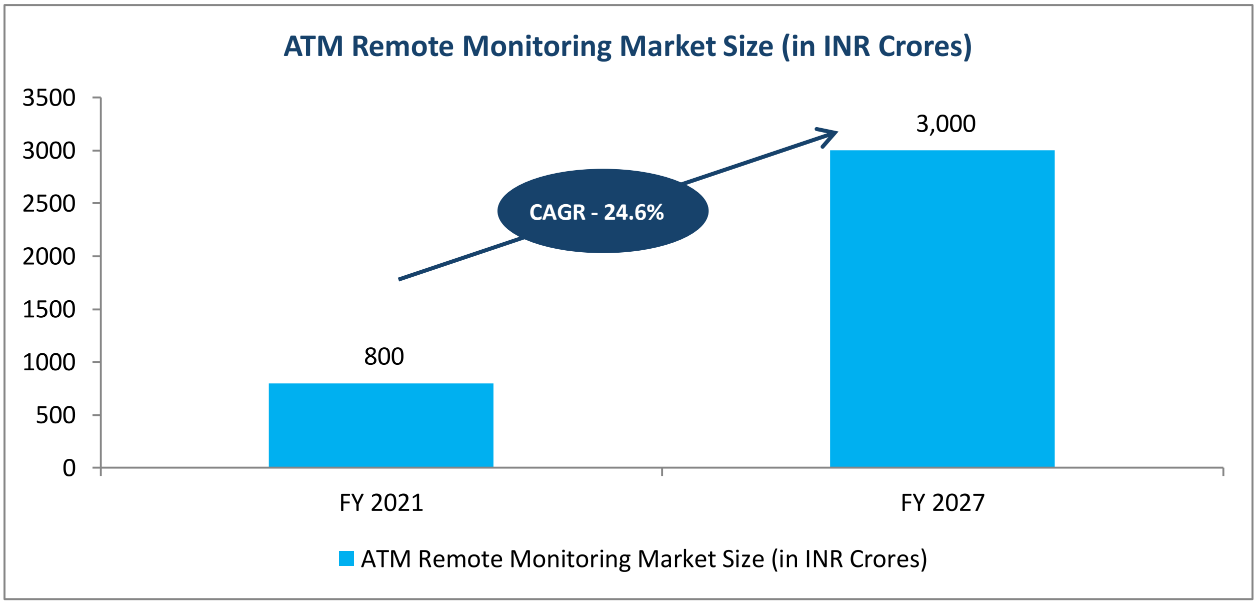
Remote monitoring could include video remote monitoring of sites– both live and trigger-based; distributed or centralized; typically a two-way audio mechanism and access to quick response teams. Beyond conventional services remote monitoring could also include other value added services such as video analytic, customer behavior information, remote camera health monitoring, IoT, etc.

Some of the benefits of ATM remote monitoring are:

- ***Low Cost:*** The cost overheads of manual security can be addressed by remote monitoring
- ***Preventing ATM Fraud and Theft***: Reducing the risk of criminal activity, ATM fraud, and theft.
- ***Timely Incident Response***: Timely monitoring can ensure efficiency gains such as effective space utilization, motion plotting to detect deviation in social distancing, and alerts when crowds exceed established capacity limits.
- ***Compliance with the new protocol:*** Ensuring staff safety, adhering to social distancing guidelines, and preventing the spread of COVID-19
- ***Compliance with RBI Guidelines:*** Ensures round the clock monitoring of ATMs and adequate measures to prevent theft.

The ATM remote monitoring market size stood at INR 800 crores in FY 2021 and is expected to reach INR 3000 crores by FY 2027 at a CAGR of 24.6%.

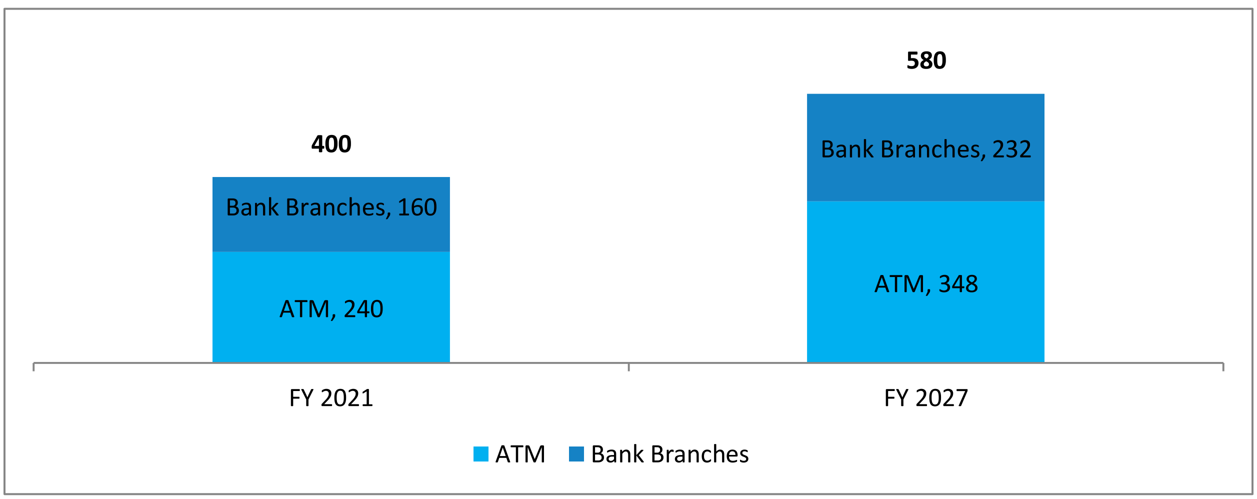
Exhibit 67: ATM Remote Monitoring Market Size, FY 2021-27



Note: Market size estimates are as on March 2021 *Source: Frost & Sullivan, Secondary Sources*

The number of sites for ATM remote monitoring is expected to increase from 400k in FY 2021 to 580k by FY 2027. The increase in the number of remote monitoring sites is correlated with the adoption of the service across multiple institutions owing to successful demonstration of use cases with respect to operational efficiencies and cost reduction.

Exhibit 68: Number of ATM Remote Monitoring Sites for Banks, (in 000s) FY 2021-27



Note: Market size estimates are as on March 2021

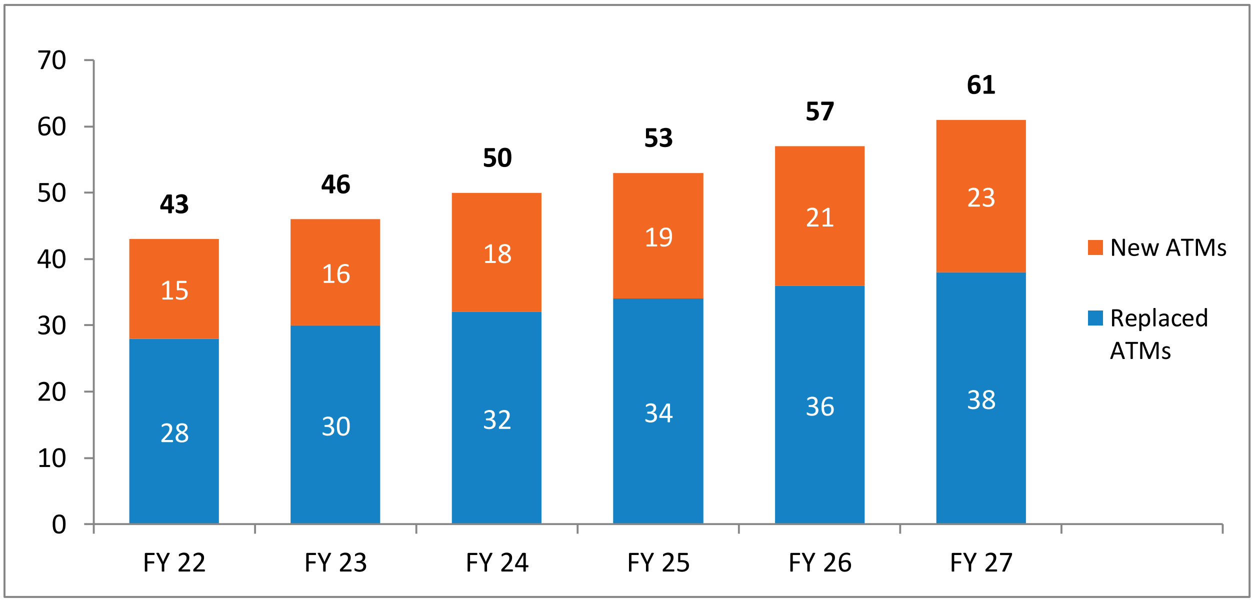
Source: Frost & Sullivan, Secondary Sources

4.1 Product Sales

In the next six years, ATM product growth is expected to be driven by replacement demand (196k ATMs expected to undergo replacement between FY21 and FY27), incremental demand for new ATMs in SURU areas owing to financial inclusion initiatives from the government -, and increase in interchange fees.

The number of new ATMs added is estimated to grow from 43,000 (new + replacement ATM) in FY 2022 to reach 61,000 (38k replacement ATMs and 23k new ATMs) by FY 2027. Total cumulative demand of 310,000 ATMs in the next six years demonstrates a huge potential for ATM product sales and serves as an opportunity area for service providers looking to capture market share.

Exhibit 69: Growth of ATM Products (in 000s), FY2022-27



Note: 1. Assuming a replacement cycle of ~9 years (7-8 years for opex ATMs and 9-10 years for capex ATMs)

2. Market size estimates are as on March 2021

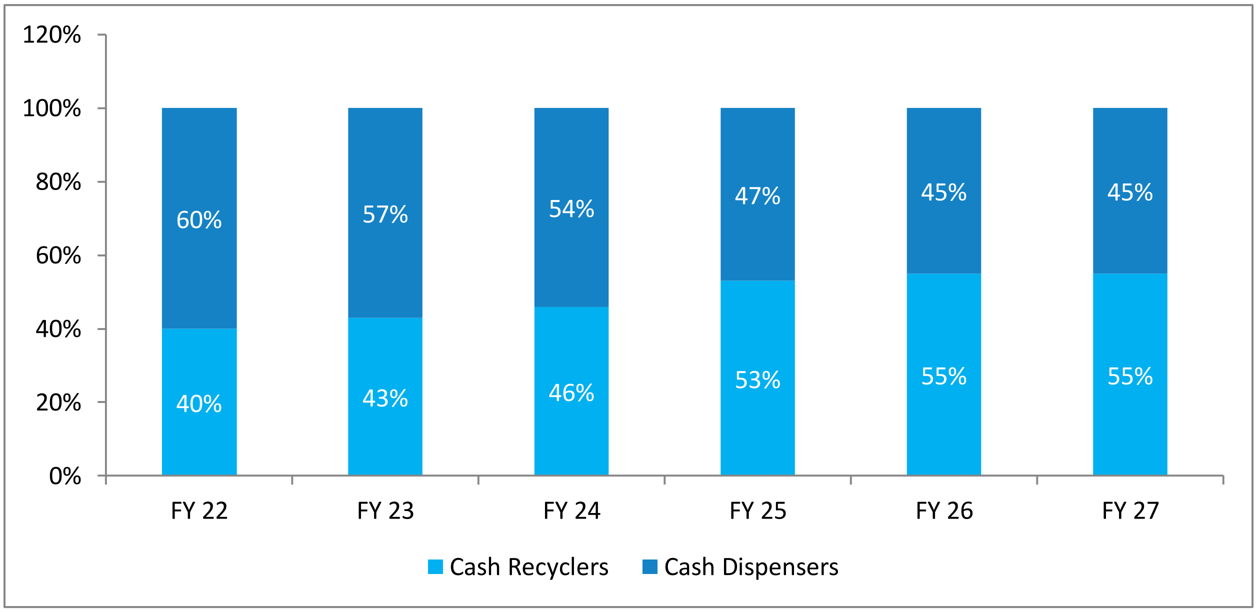
Source: RBI, Frost & Sullivan, Secondary Sources

While CDs form 60% of the incremental growth in FY'22, going forward, CRs are expected to contribute more and form 55% of incremental growth in FY27 (mostly for banks other than Cooperative and Regional Rural Banks). CRs bring significant revenue potential for banks acquiring deposit transactions as well as save servicing costs for in-branch cash deposits (3x of that on ATM).

Banks are increasingly preferring cash recyclers (CRs) over cash dispensers (CDs) due to both cost and revenue considerations. Major banks such as Axis bank, ICICI, HDFC etc. are all systemically moving towards deploying cash recyclers in urban areas. Axis bank has also enforced a recent policy that mandates 100% of new/replacement ATMs to be cash recyclers.

White Label ATMs also serve to gain from the potential of cash recyclers as they can offer a mini-branch experience through collaboration and increase their cobranding/advertising revenues by 15-20%. Players such as Hitachi, with over 4500 WLAs in India, is focusing on maintaining a 40% ratio of cash recyclers and other major WLA players are expected to follow suit to take advantage of such high revenue generating capabilities for CRs.

Exhibit 70: Share of Incremental Growth of Cash Recyclers and Cash Dispensers, FY2022-27



Note: Market size estimates are as on March 2021

Source: RBI, Frost & Sullivan, Secondary Sources

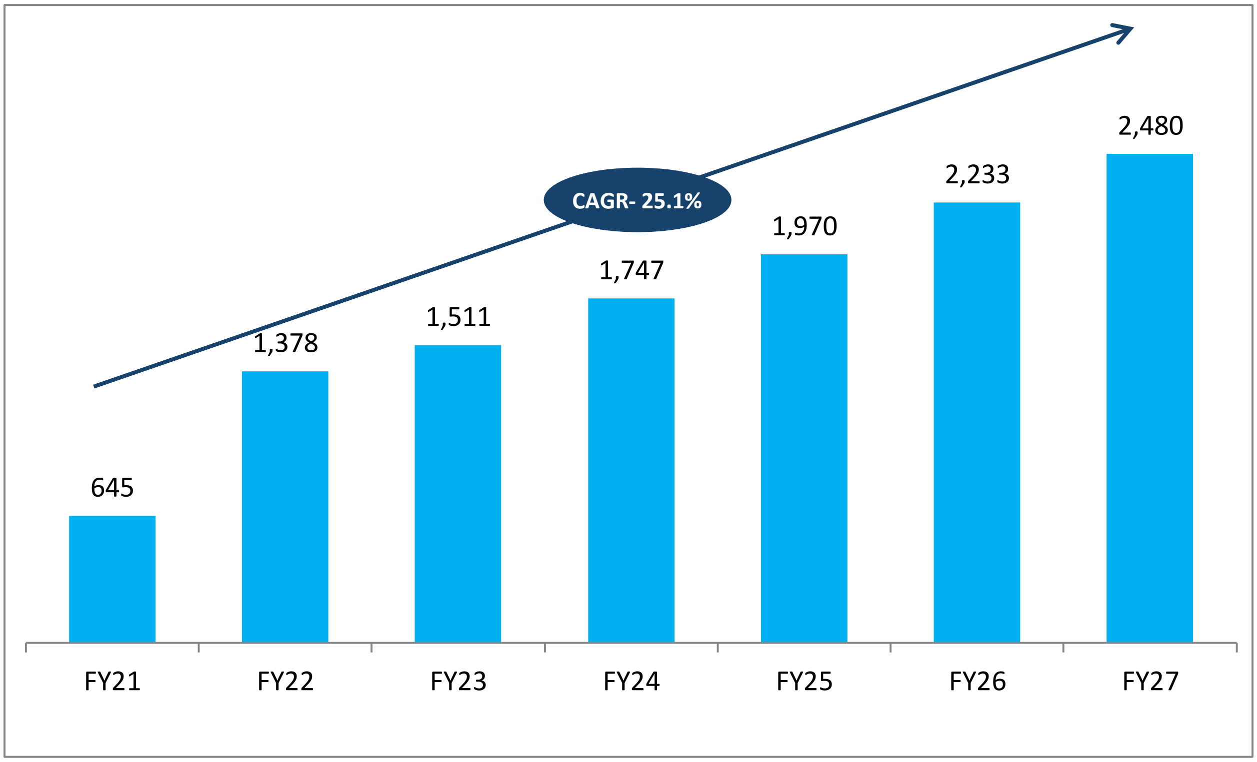
In FY 2021, the distribution of cash recyclers was prominent across private banks, with WLAs and State Banks following closely. Traditional cash dispensers formed the major part of the total ATM product mix with cash dispensers occupying an average of 8% of the total base of ATMs across different banks.

The propensity for cash recyclers is expected to increase – given the cost saving benefits, revenue potential from interchange fee etc., and hence by FY 2027, along with private banks, SBI, WLAs and other banks in the public sector are expected to see an increase in the utilization of cash recyclers.

Hence, by FY 2027, cash recyclers would occupy a 46% average of the ATM product mix across the multiple banking segments.

The ATM product market size is estimated at INR 645 crores in FY 2021 and is expected to reach a value of INR 2480 crores by FY2027 (CAGR of ~25%). This high growth is primarily driven by the number of addressable machines (new + replacement) growing at ~17% annually and expected increase of 5-6% in realization owing to higher share of CRs as a proportion of total ATMs over the forecast period.

Exhibit 71: ATM Product Market Size, FY 2021-27 (INR Cr.)



Note: Market size estimates are as on March 2021

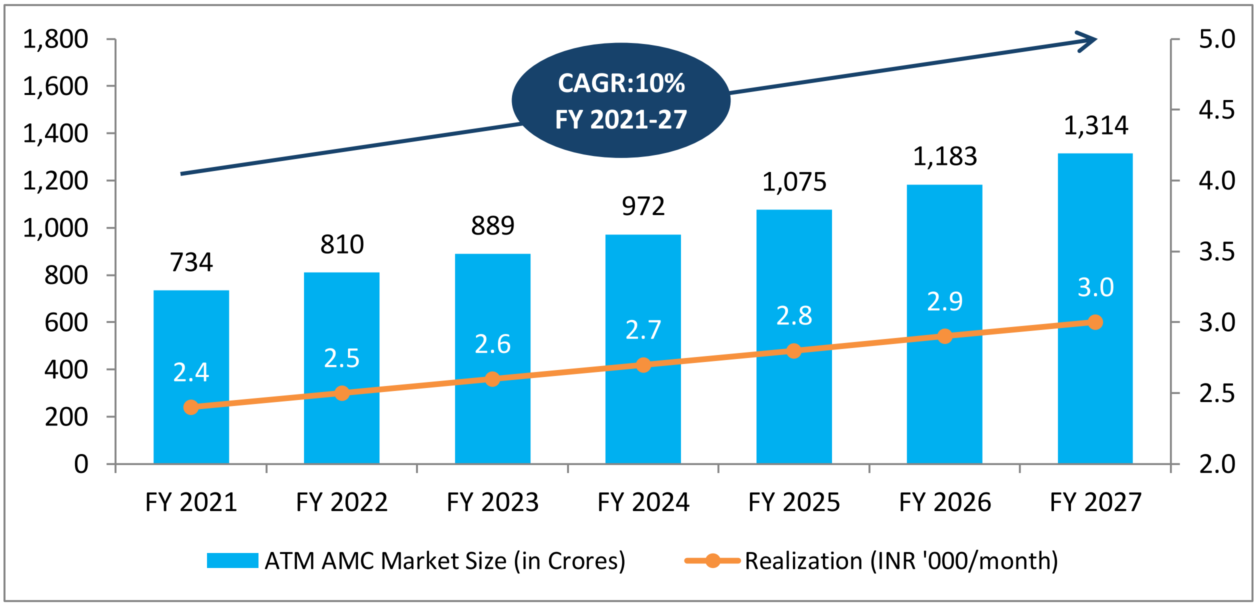
Source: RBI, Frost & Sullivan, Secondary Sources

4.2Annual Maintenance Contracts (AMC)

Service providers (usually OEMs) supply and install ATMs for customers, who then engage with such suppliers to provide maintenance on ATMs during their contract period. Under such AMCs, with these customers, service providers usually deliver second line maintenance for their ATMs, including the provision of remedial hardware maintenance, replacement parts, and preventative maintenance. The duration of AMCs range between 8 to 10 years, renewable at the option of the parties, and are paid a fixed AMC fee, in annual, semi-annual or quarterly installments.

Annual maintenance contracts are applicable to all the available ATMs across the total installed base in India. The AMC market, therefore, has a direct correlation with the growth of the ATM market in India. The AMC market is expected to grow from INR 734 crores in FY 2021 to INR 1314 crores in FY 2027 with a CAGR of 10.1%, primarily driven by increase in the ATM stock and increase in realizations. The average realization rate for such AMCs are also expected to grow at 4% CAGR from INR 2,300 in FY 2021 to INR 3000 by 2027, propelled by factors such as market competition, inflation, and shift towards cash recyclers.

Exhibit 72: AMCs on Installed ATMs in India, FY 2021-27



Note: Market size estimates are as on March 2021

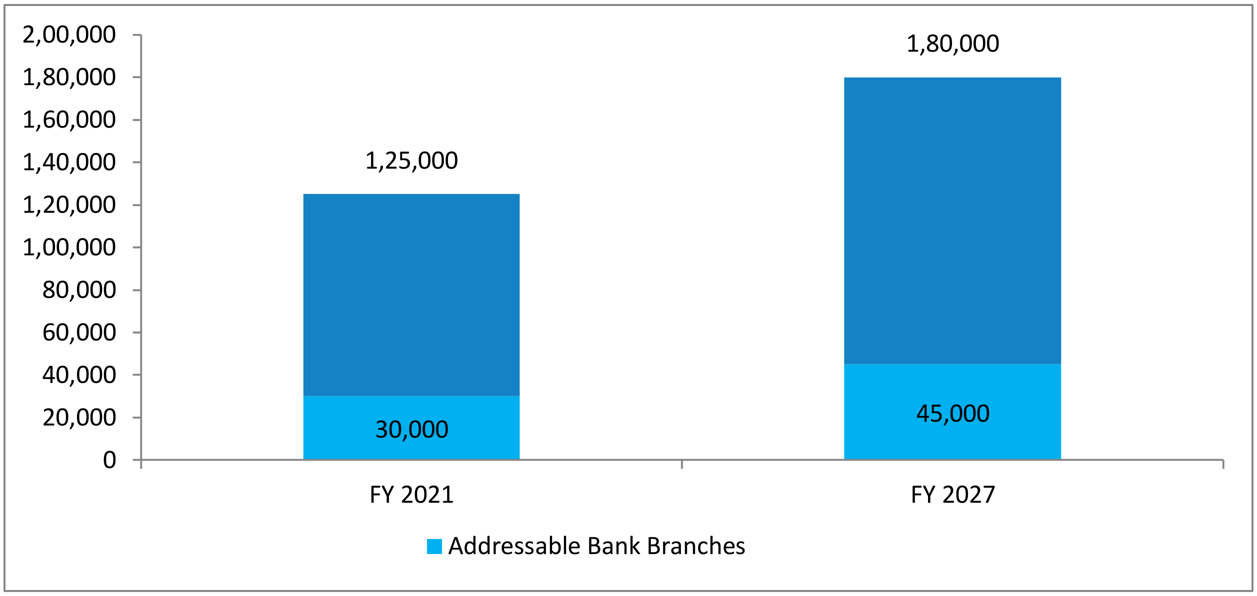
Source: RBI, Frost & Sullivan, Secondary Sources

4.3Banking Automation Products

Automation products for banking sector include multiple items such as the following:

- **Passbook Kiosks**: Self-service kiosks that provide automated data retrieval and updates for passbooks using barcodes.
- **Cash Deposit Machines + Retail Cash Vaults:** Devices that allow for the direct deposit of cash into the customer's account via cards or cash vaults.
- **Queue Management Kiosks:** These are products that facilitate customer walk-ins and non-financial transactions.
- **Cheque Deposit Kiosks**: Facilitates direct deposits of cheques.
- **Multi-functional Kiosks**: Touch screen machines that allow account opening, debit card generation; Multiple modules available for customization.
- **Teller Cash Recycler (TCR):** Serves as mini-ATMs to improve teller efficiency.

Exhibit 73: Total number of Bank branches in India & Proportion of Addressable ones for Automation Products, FY 2021-27



Note: Market size estimates are as on March 2021

Source: RBI, Frost & Sullivan, Secondary Sources

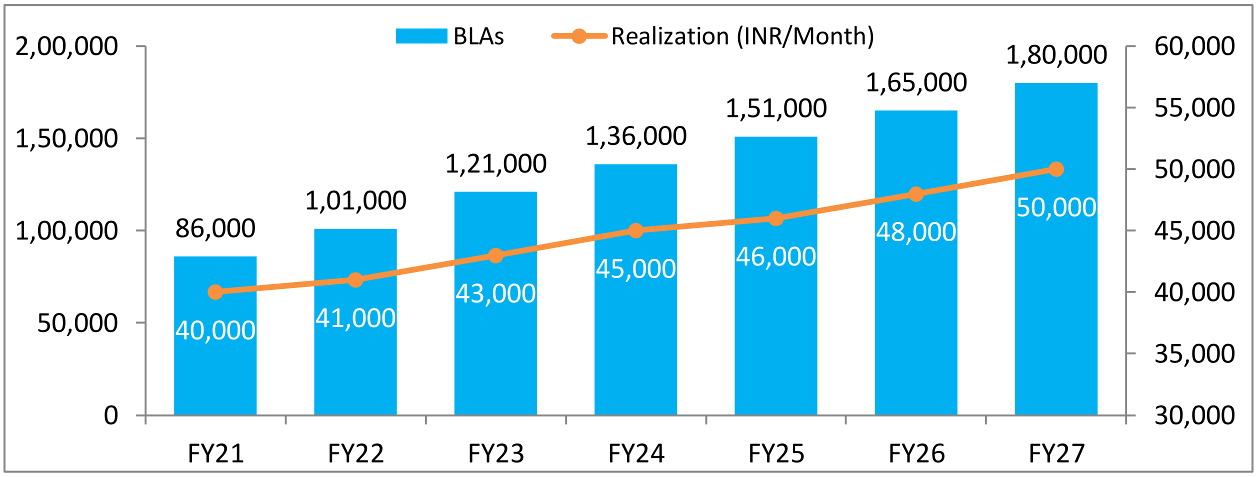
The total number of bank branches is expected to grow at approximately 5-6% from FY 2021 to FY2027 as a means of increasing coverage in SURU areas. Post the demonetization phase, there was a decline in the growth of bank branches due to the consolidation of state banks, headwinds due to demonetization, and COVID-19. The large bank branches (~25% of branches) are addressable for most automation products.

The market size for Banking automation products, excluding ATMs, is estimated at INR 263 crores in FY 2021 (incl. AMC) and is projected to reach a value of INR 495 crores by FY 2027 (Incl. AMC). Increased adoption of automation products, particularly among bank branches wherein such products have not gained significant penetration is expected to contribute to the growth of the market. With an average AMC cost of 6k per annum attributed to all products, there is an additional INR 90 crore market for automation products in FY 2027.

4.4Brown-Label ATMs

In the case of BLAs, the hardware of each ATM machine is owned by the service provider. The service provider is responsible for selecting ATM locations, negotiating a lease agreement with the landlord and providing power to the ATM kiosk. As a result, the service provider is responsible for the deployment and end-to-end ATM management, while the sponsor bank is responsible for providing cash and access to the banking network. Banks, either through a fixed monthly fee model or a pay-per-transaction model, pay for the service included within the agreement with the service provider. It is estimated that the number of BLAs in FY2021 is 86,000 and this number is expected to rise to 180,000 by FY2027. Since private banks were the early adopters of BLAs, mostly for offsite ATMs, they have the largest share of 57% of the total BLAs in the country. By FY 2027, the total number of BLAs is expected to be 50% of the total ATMs in India.

Exhibit 74: Number of BLAs in India & Realization per month, FY 2021-27



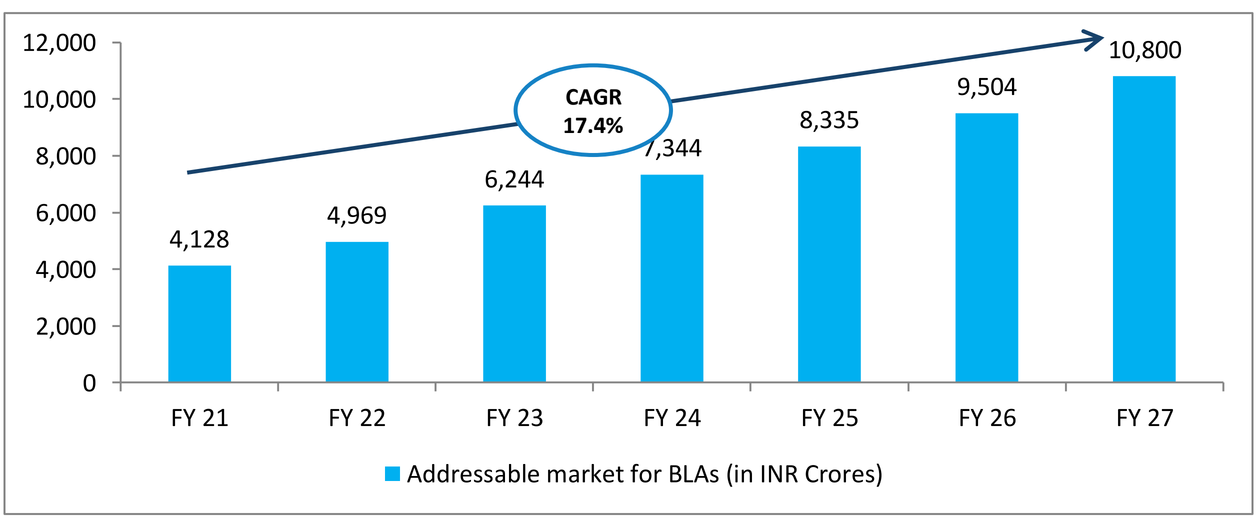
Note: Market size estimates are as on March 2021

Source: RBI, Frost & Sullivan, Secondary Sources

The market size for BLAs is estimated to be INR 4128 crores in FY 2021 and is estimated to reach over INR 10800 crores by FY 2027. While BLAs offer significant convenience to the banks in terms of management, a major driver for the growth for this market is the reduction in CAPEX that banks typically incur in setting up ATMs owing to the high cost of implementation. Hence, both PSBs and private sector banks are expected to adopt BLAs as their main business model in the future.

From a market availability perspective, the total available market (TAM) for BLAs stand at an estimated value of INR 12240 crores in FY 2021 and is expected to reach a size of INR 21,900 by FY 2027. BLAs have a high realization rate of approximately 40k per BLA owing to costs associated with rent, electricity, maintenance, DCV maintenance, machine cost, monitoring and other backend costs. The realization rate is expected to significantly increase up to 50k by FY 2027, owing to cost price inflation and price increases due to compliance implementation and higher mix of Cash Recyclers.

Exhibit 75: Market Size & Total Available Market of BLAs in India (INR Crores), FY 2021-27



Note: Market size estimates are as on March 2021

Source: RBI, Frost & Sullivan, Secondary Sources

4.5 Pure Managed Service (Bank-owned ATMs)

MS ATMs are managed and owned by banks that only outsource specific backend services such as cash forecasting, configuration management, cash replenishment scheduling, transaction monitoring, reconciliation and maintenance services.

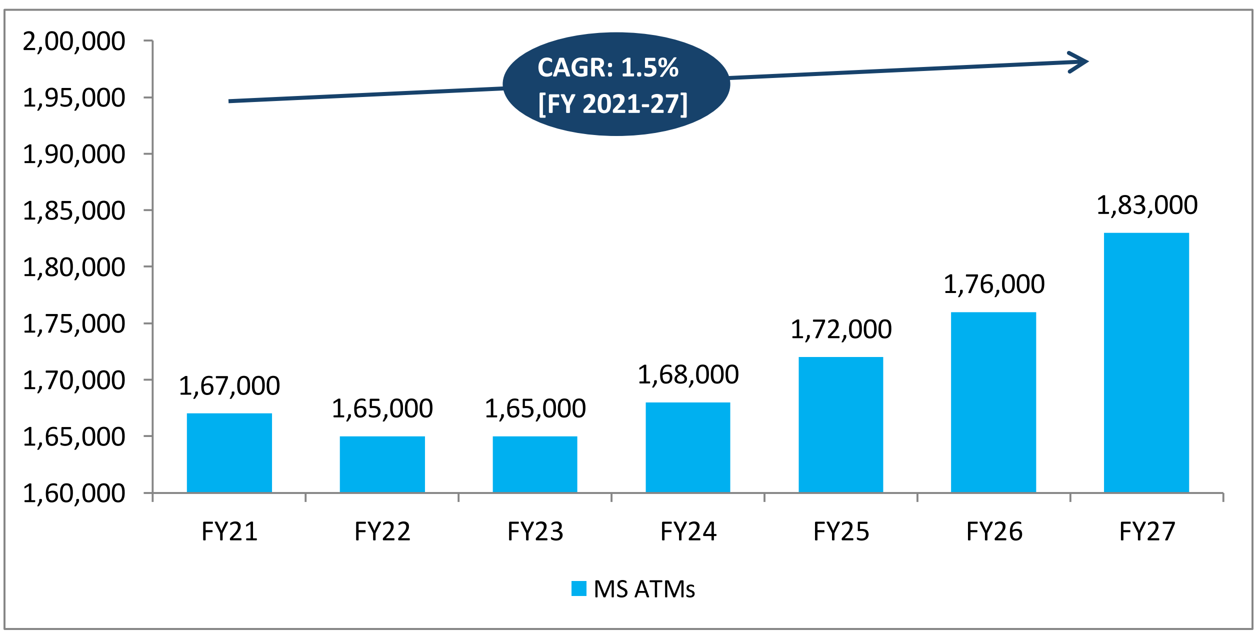
The market for ATM managed services includes the following array of services:

- ATM monitoring and setting up of a 24 by 7 help desk to ensure availability of ATMs as per the service level agreements (SLAs) entered into with the banks;
- Event & Incident management; following up with various service providers such as cash management companies, communications network providers, and ATM manufacturers for faster resolution of issues;
- ATM uptime management and reporting, Cash Monitoring, Forecasting and Replenishment Management, and
- Housekeeping and site maintenance.

Currently, in FY21, around 167,000 ATMs out of an installed base of 255,000 are bank-owned and it is expected to reach 183,000 by FY27. ATM deployment picked up momentum post the stagnation after the demonetization period due to the increased deployment by PSBs and WLAs.

The average realization rate for MS ATMs is expected to remain constant over the next 6-7 years owing to commoditization of offerings, restricted opportunities to charge premiums due to increase in competition and potential decrease in service costs owing to technology adoption.

Exhibit 76: Number of MS ATMs FY 2021-27

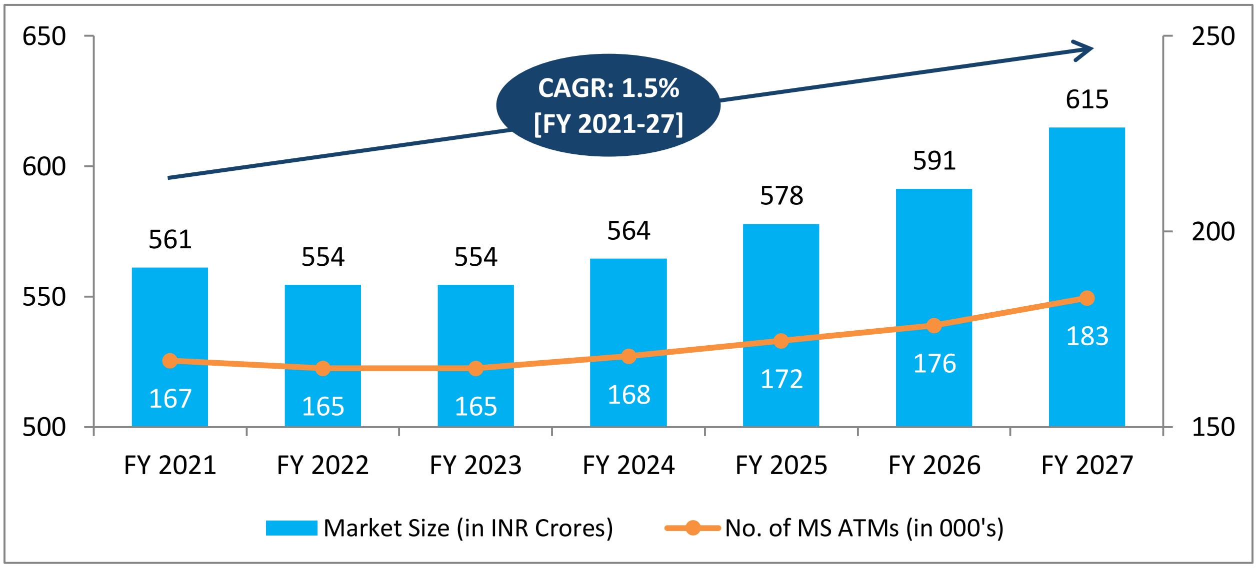


Note: Market size estimates are as on March 2021

Source: RBI, Frost & Sullivan, Secondary Sources

Currently the MS ATM market is valued at INR 561 crores and includes all the ATMs except brown label ATMs. In FY 2021, the number of MS ATMs stood at 167k and is expected to reach 183k by FY 2027. The MS ATM market is expected to grow at a CAGR of 1.5% between FY 2021 and FY 2027.

Exhibit 77: MS ATMs Market Growth, FY 2021-27 (in Crores)



Note: Market size estimates are as on March 2021

Source: RBI, Frost & Sullivan, Secondary Sources

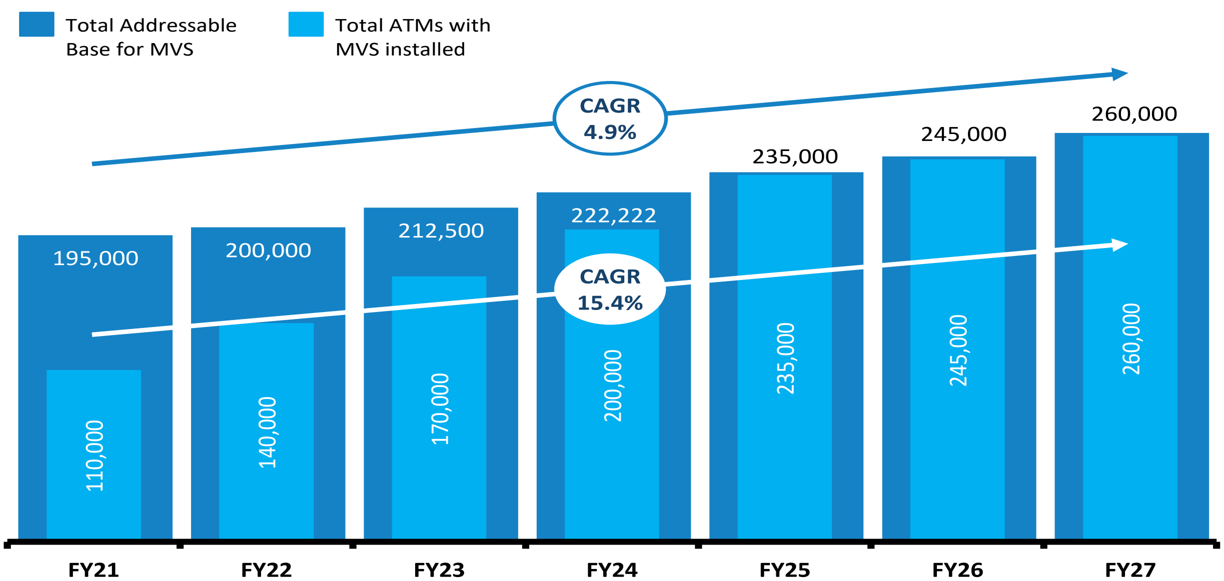
4.6Multivendor Software ATMS (MVS)

Financial institutions can present a consistent and rich consumer experience across their self-service networks by consolidating on a single software platform. A multi-vendor software environment allows financial institutions to streamline their development and support operations by eliminating the need to maintain and enhance several, distinct delivery infrastructures for each new function or service they provide. With players moving in and out of the OEM market, MVS offers security against churn to the banks. MVS also brings cost and operational benefits by eliminating the costs associated with upgrading and managing ATM software. Banks can also leverage the security functions with MVS to manage the changing security guidelines, RBI encryption mandate etc.

The MVS market is largely composed of banks that have a considerable amount of ATM boxes to manage. Hence predominantly the public sector bank (PSB) and large private bank ATMs form the addressable base for the market. Out of total 255k ATMs in the country by FY21, only about 195k ATMs thus form the addressable segment for this market. By FY27, the addressable base of ATMs is expected to grow to 260k.

In FY 2021, out of an addressable market size of 195,000 ATMS, 110,000 had migrated to MVS ATMs. This number is expected to increase up to a value of 260,000 by FY 2027, and penetrate 100% of the addressable market, predominantly driven by the shift of PSBs to MVS ATMs. By 2025, it is estimated that all PSBs would have migrated to the MVS model – indicated by the fact that 5 of the top tier banks in India (SBI, AXIS Bank, HDFC, ICICI and IndusInd) comprising of over 110,000 ATMs have already moved to MVS.

Exhibit78: Number of MVS ATMs, FY 2021-27



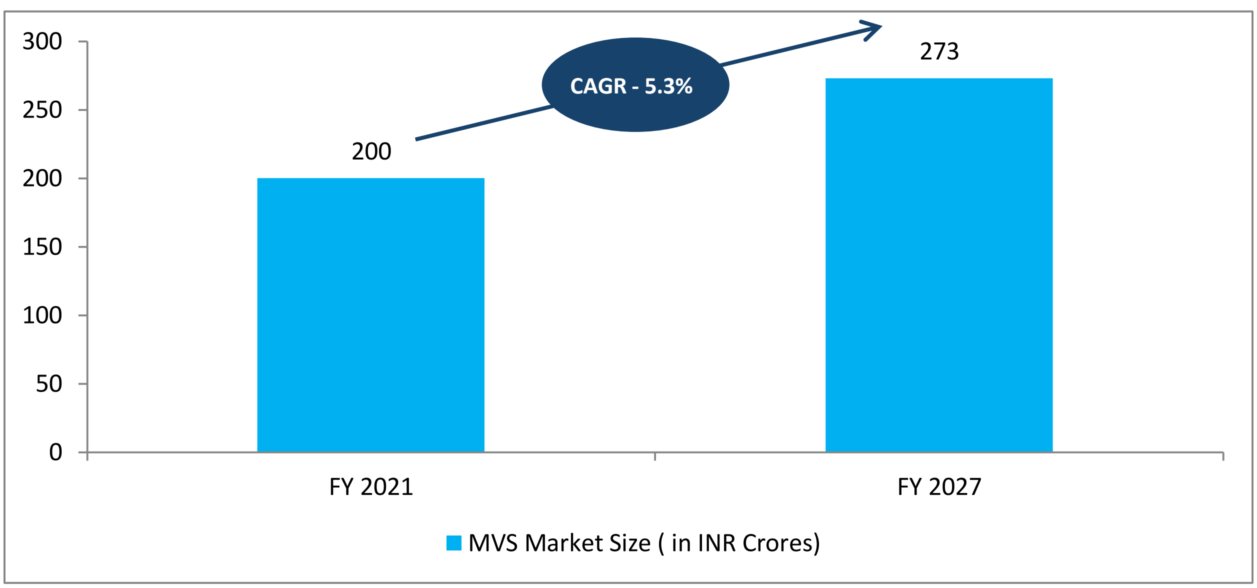
Note: Public Sector Bank & Large Private Sector Bank ATMs constitute the addressable base for MVS

Note: Market size estimates are as on March 2021

Source: Frost & Sullivan Analysis

The MVS ATM market size consists of two different software components: One time license cost for the software and annual license fee maintenance and upgrading the software. The MVS market is expected to grow from INR 200 crore in FY 2021 and reach a value of INR 273 cores by FY 2027, largely driven by annual licensing costs that are seeing a rapid adoption and growth rate of over 5.7% CAGR.

Exhibit 79: MVS Market Size, INR Crores, FY 2021-27

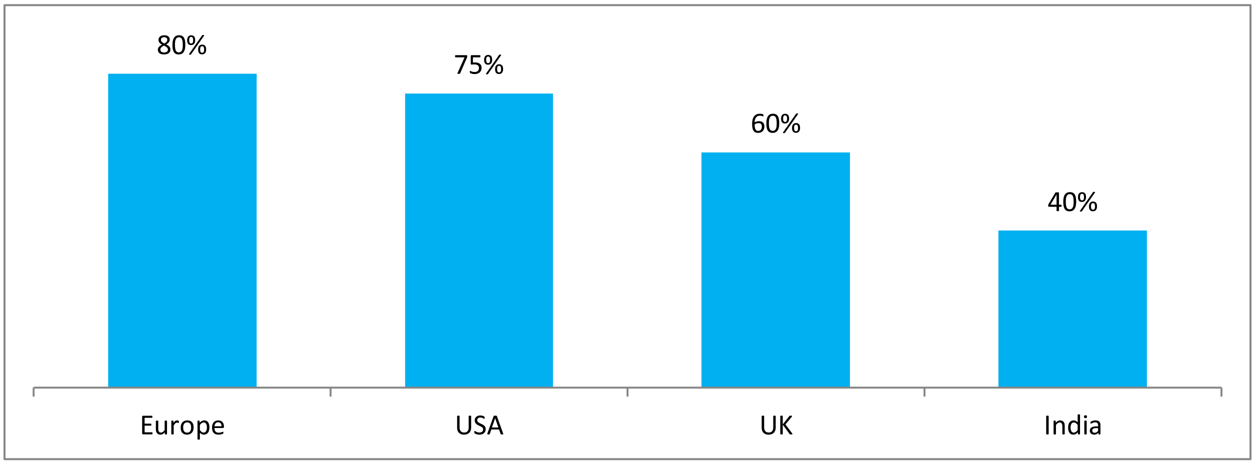


Note: Market size estimates are as on March 2021

Source: Frost & Sullivan Analysis

4.7Benchmarking of MVS coverage with other countries

Exhibit 80: MVS Coverage across Major Regions, in %, FY 2021 (%)

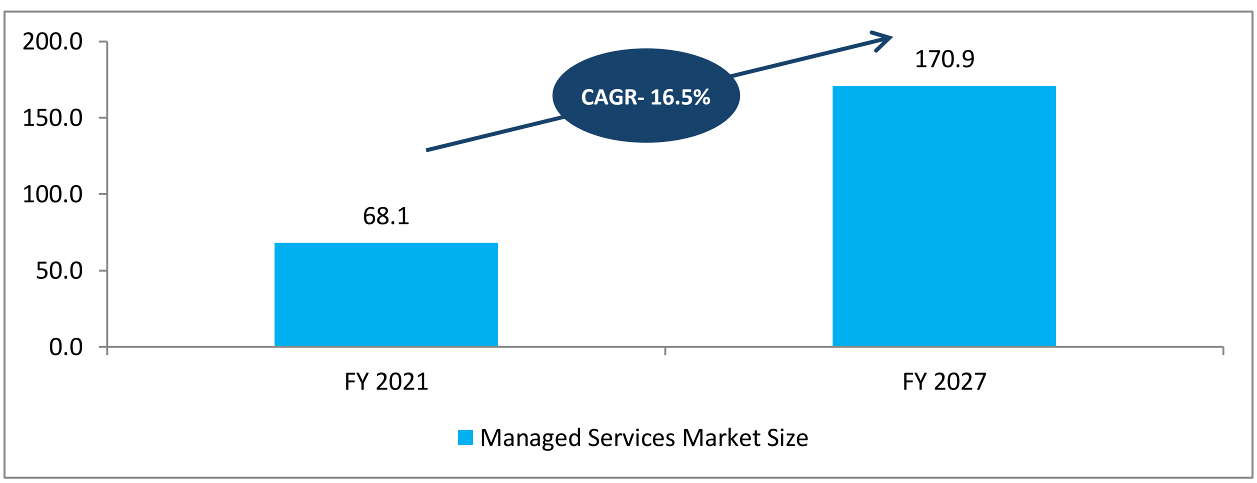


Source: RBI, Frost & Sullivan, Secondary Sources

India has a relatively lower MVS coverage (about 40%) of all the ATMs in 2021. In comparison, Europe has over 80%, USA with 75% and UK with 60% of MVS coverage. The coverage for India is expected to increase, as most PSBs are looking to migrate to MVS ATMs. It is estimated that by FY 2025, all PSBs would have migrated to MVS completely.

The ATM managed services market includes components such as ATM products, AMC, pure managed service (bank-owned ATMs), BLA, MVS and remote monitoring services. The managed services market stands at INR 68.1 billion in FY 2021 and is expected to reach a market size of INR 170.9 billion by FY 2027, growing at a CAGR of 16.5%.

Exhibit 81: Managed Services Market Size, INR Billions, FY 2021-27



Note: Market size estimates are as on March 2021

Source: Frost & Sullivan, Secondary Sources

5 Global Cash Management Market

In markets such as the US and Western Europe, the degree of outsourcing of cash handling is strong due to the maturity and high awareness with banks and large retailers to reduce their cash management costs and focus on their core business activities. Globally, especially in developed markets, competition in cash management market is largely restricted to two or three market participants.

In developing economies such as India, cash handling is in growth stages with significant potential to be tapped in areas such as cash management & handling and in other value-added areas such as cash management and automation solutions. With maturity, the Indian market will also head towards consolidation restricting competition to not more than 4 market participants. Based on the growth trajectory and pattern observed in matured markets, cash-in-transit (**CIT**) – the physical transfer of banknotes, coins and items of value from the currency chests of banks to its branches or from branches to branches, is outsourced first by banks, followed by other services such as cash management services, secure transport of highly-valued commodities, and automation of cash handling functions in banks and large retail stores using technology like cash dispensers, cash recyclers, and smart-safes. This trend is expected to mirror in emerging markets such as India where majority of the revenues garnered by cash management companies are in the areas of ATM replenishment and cash transportation.

One of the key influencing factors that impact users such as banks and retailers to outsource the cash operations is the amount of cash in circulation and number of cash transactions occurring on a daily basis. It is observed that high cash usage has a net positive impact on the demand of cash management services from banks and retailers.

In spite of growth in digital transactions in matured markets cash usage continues to grow, which is better representative of the market trajectory for an emerging country like India. With reduced cash usage in matured markets, companies are creating sound business strategies such as improving operational efficiencies and offering higher value-added products and services to augment margins. On the other hand, reduced cash usage and shift to non-cash payment modes also increases the willingness of banks to outsource because cost of handling goes up when banks try to do it themselves. Hence, it is perceived to have a win-win impact in both the cases as cash management companies can handle it in a cost effective and safe manner.

5.1 Internal Efficiency Improvements

As the same service must be provided for several customers, global firms such as Brinks, Loomis, and Prosegur have resorted to internal efficiency enhancements as traditional solutions such as ATM cash management have matured. To attain improved operating margins, companies have introduced lean processes and the right-sized cost structure. Another area where businesses are attempting to improve efficiency is fleet management. Route profitability (cost-per-stop) is improved through methods such as a lighter and more flexible fleet, daily route performance, and route optimization utilizing GPS monitoring. Improved truck loading speeds, innovative methods for creating cash bundles/cassettes for ATMs, and ongoing improvement in the cash consolidation and reconciliation process are some of the other areas where organizations are working.

5.2 New Revenue Streams

Companies throughout the world are focusing on areas other than cash replenishment to enhance revenue mix and profits, as well as lower client cash cycle costs. Furthermore, regardless of the increasing or downward trend in cash usage, many banks and shops have substantial fixed costs related with their cash processing. Banks are under pressure to improve customer service, and cash management service providers are better positioned to do so at a lower cost while maintaining high levels of protection against fraud and cyber-attacks. This means that banks and shops will have to turn to outsourcing to cut costs, which bodes well for structured cash management and handling service providers in a time when cash transactions are slowing.

Newer areas of growth and strategies adopted by global companies include but not limited to the following:

- Secure transportation of high value products such as diamonds, jewellery, precious metals, securities, high tech electronic devices, pharmaceuticals.
- Unique cash management services such as currency processing, and selling cash management technologies such as cash dispensers, cash recyclers, and smart-safes to banks and large retailers.
- Front office and back office cash management and cash recycling covering areas like outsourcing of the end-to-end currency management, including counting, verification and quality control of coins and banknotes, analysis of cash flow and cash forecasting necessary for different ATMs, cash change required by retailers, vault outsourcing.
- Penetration of large unvended retail market to offer cash management technology solutions.
- Operation of mobile bank branches where customers of different banks can deposit and withdraw money from the same outlet. In addition, cash management companies are proposing to banks to outsource their bank teller staffing and operations to themselves as a part of their strategy to become integrated in the extended value chain.

Cash Handling Technologies

Technology and innovation are driving down the cost of cash handling automated systems (cash recyclers, cash dispensers, smart-safes) leading to increased adoption in sectors such as banking and retail. The benefits associated with these systems include:

- Better reconciliation, authentication, sorting, and counting
- Increased speed of transactions thereby increasing the accessibility of cash
- Improved security due to avoidance of theft and serve as secured storage units for cash
- Improved identification of counterfeit notes

Besides the functional and utilitarian advantages, these machines can benefit banks and retailers to a great extent if the data captured by these devices can be put to effective use[3]. Some of the data sharing benefits include:

- Retailers and banks can combine data from different cash systems in different branches to understand the cash status at each location on a real-time basis
- These systems can be integrated with the retailer's point of sale systems and other cash management systems for better reconcilement
- It gives the users to receive provisional credit on cash stored in these safe devices.

5.3 Global Cash Management Competitive Landscape

Due to high entry barriers, regulatory oversight, and technological improvements, the industry landscape is highly concentrated globally. In developed markets such as the United Kingdom, the Banks have raised entry barriers through strict regulations (eg. by only allowing registered commercial entities to manage wholesale distribution) for its Note Circulation Scheme (NCS), making it difficult for new companies to enter the market while also forcing existing service providers to rethink their strategy and service differentiation. Multinational businesses such as Brinks (US), Loomis (Sweden), Prosegur (Spain), G4S (UK), GardaWorld (Canada), and ALSOK dominate the global market (Japan). These businesses have made increasing profitability and growth through better value-added offerings a top goal.

Exhibit 82: Cash Management Competitive Landscape, FY 2021

Company Name	ATMs Served	Cash Vans	Gross Revenues	Employees
Loomis	80,000		SEK 18,813 MN / USD 2,188	23,000
Prosegur Cash	100,000	10,000	Euro 1,508 MN / USD 1,795 MN	45,000
Brinks	130,000	16,300	USD 3,691	76,500
Garda		3,100	Canadian Dollars 990 MN / USD 795 MN	122,000
Alsok	73,000		460.118 Billion Yen/ USD 4.18 Billion	
G4S Plc			6960 Pound MN/USD 9605 MN	533,000

CMS	63,000	4,000	~INR 14,000 Million / USD 190 Mn	20,000+

Note: 1) The following exchange rates were used to convert currencies to USD

1 SEK = 0.116 USD, 1 EUR = 1.19 USD, 1 YEN = 0.009 USD, 1 Pound = 1.38 USD, 1 INR = 0.0135 USD

2) All financial values are indicative of the respective company's overall financial performance and include all business /segmental units.

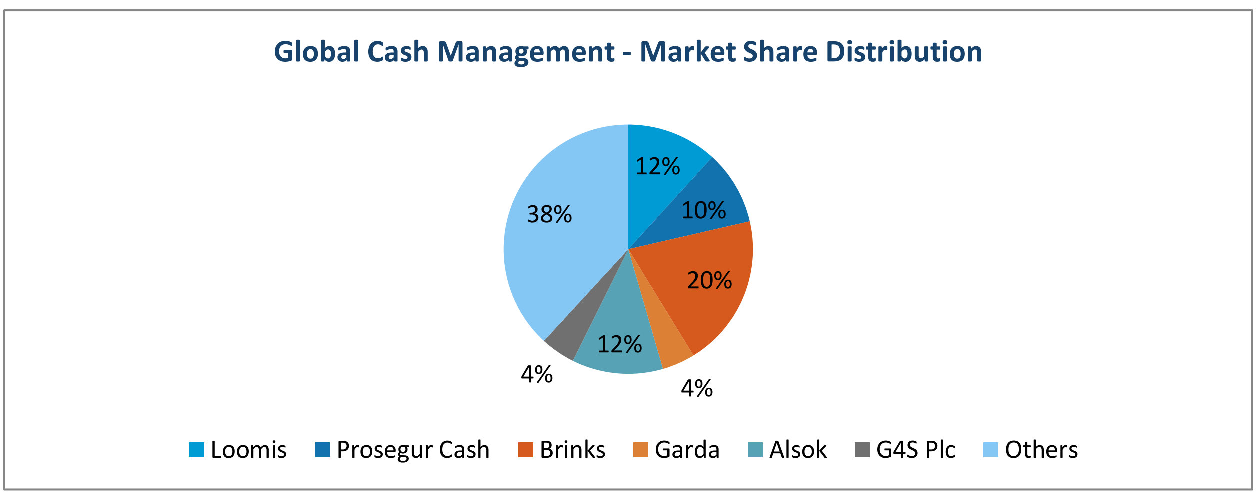
Source: Annual Reports of respective companies

Companies such as Loomis and Brinks are trying to increase their revenue share from higher value added services. For example, core services accounted for around 53% of Brinks' revenue in 2016, while high-value services accounted for 40%. The revenue component from high-value services increased to 44% in 2020, including transportation of high-value commodities, cash management services, and CompuSafe machines, which are closed loop systems that can be used in retail stores, gas stations, restaurants, and entertainment venues where cash usage is high.

Cash management services contributed for 61 percent of Loomis' overall income in 2020, while cash management accounted for 30 percent. SafePoint's revenue from unit sales in the US market segment accounted for roughly 17% of the company's total revenue. Loomis AB has agreed to buy Automatia Pankkiautomaatit Oy (Automatia) outright from its current owners, Danske Bank, Nordea, and OP Financial Group. The deal is estimated to be worth EUR 42 million in total. Under the Otto brand, Automatia manages Finland's largest ATM network, as well as statewide cash supply services for bank branches, night safes for merchants, and a digital platform for rapid payments.

Brinks purchased 100% of Rodoban's capital stock for $134 million in January 2019. Rodoban principally serves southeastern Brazil with cash management services, money processing, and ATM services. As part of the acquisition of G4S' cash management activities in 2020, the Company also acquired some operations from G4S plc (G4S).

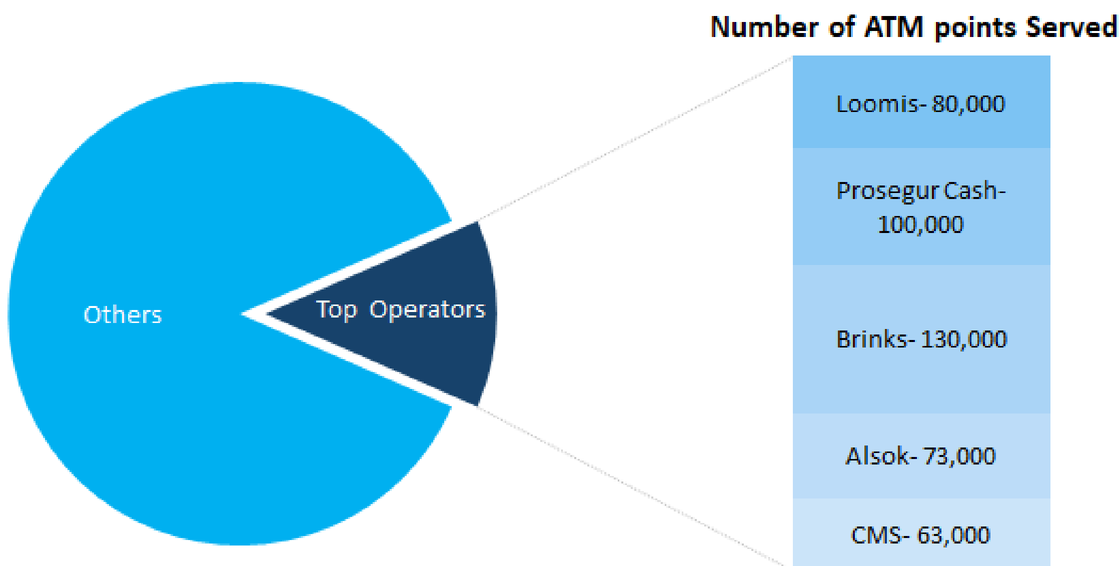
Exhibit 83: Global Market Share of Key Companies in the Cash Management Industry, CY 2020



Source: Company Annual Reports, Frost & Sullivan, Secondary Sources

Companies such as Brinks, Prosegur, Loomis and Alsok have a larger number of ATM points under their service portfolio owing to the presence across multiple major geographies. CMS serves around 63,000 ATM points and presents itself as a competitor to these global companies on the scale of ATM points. The other top players are present across multiple geographically/regionally and in developed markets. CMS, which has its presence only in India - an emerging market, positions itself on a comparable level with some of the global market leaders. CMS is also one of the largest ATM cash management company worldwide based on number of ATM points as of December 31, 2020.

Exhibit 84: Global Market Share of Key Companies – By number of ATM Points Served , [March 2020]



Source: Company Annual Reports, Frost & Sullivan, Secondary Sources

Key transactions in the global cash management industry:

- 2021- Brinks announced its acquisition of PAI, Inc., the largest privately-held provider of ATM services in the U.S., for $213 million
- 2021 – NCR acquired Cardtronics- a trusted leader in financial self-service, enabling cash transactions at over 285,000 ATMs across 10 countries, for an enterprise value of USD 2.5 billion
- 2020- Brinks announced it has reach an agreement to acquire the majority of G4S's remaining cash management businesses for approximately US$860 million
- 2020- Loomis AB acquired Finnish cash management and ATM firm Automatia Pankkiautomattit Oy (Automatia) for 42 million euros ($45.6 million). Automatia operates the largest ATM

network in Finland under the Otto brand and provides cash supply services for banks, cash storage night safes for retail stores and has a digital platform for making instant payments.

- 2019 – Loomis announced the agreement to acquire 100 percent of Ziemann Sicherheit Holding, a German domestic cash handling service for 160 million Euros. In addition, Ziemann also carried out security services as well as trading activities within the wholesale and retail market for currencies and precious metals.
- 2018 – Brink's acquired Dunbar Armored Inc. for $520 million in cash, boosting the reach of the global leader in cash management and secure transportation logistics — also known as armored cars.
- 2017 - The Brink's Company in exclusive negotiations to purchase France's cash-in-transit, money processing and ATM services company called Temis. The acquisition is expected to close in the fourth quarter of 2017.
- 2017 - In the second quarter of 2017, The Brink's Company acquired PagFacil, a payments business in Brazil, and LGS, a cash-in-transit business in Chile.
- 2017 - The Brink's Company has agreed to a cash purchase of Argentina's CIT and money processing company, Maco Transportadora de Caudales S.A. ("Maco"), for approximately US$ 209 million.

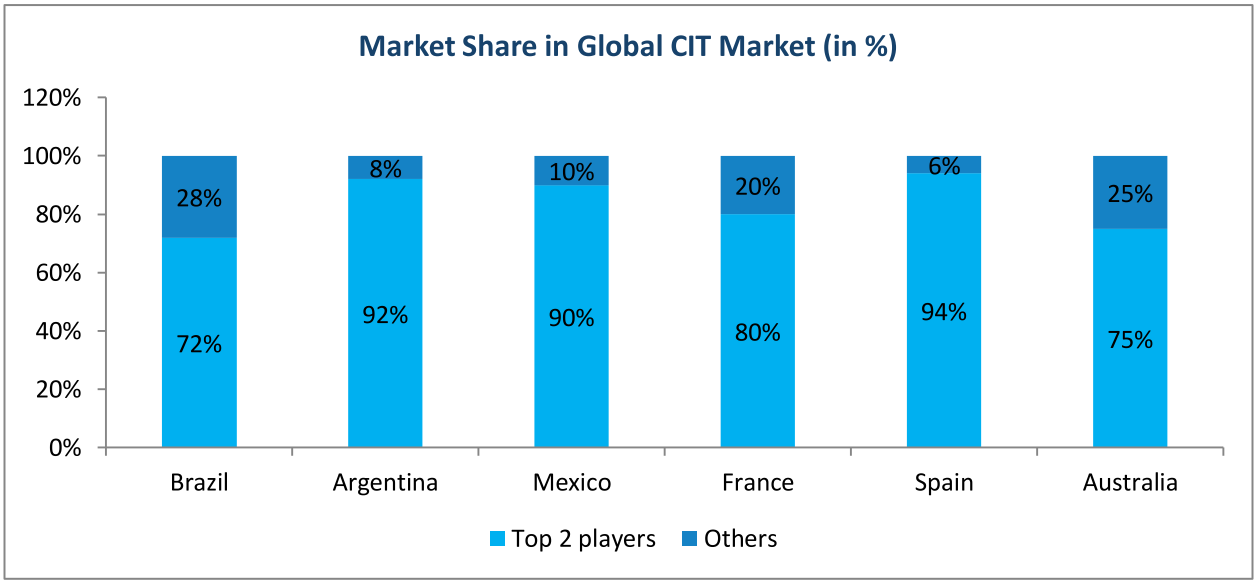
Globally companies exhibit the following competitive advantages to grow and sustain in the cash management and logistics market where pricing pressure exists in core areas such as ATM services and CIT.

- Improving brand name by offering higher levels of service and ability to meet the safety and security expectations of banks and retailers
- Operational excellence through fleet management and network optimization to improve turnaround times and reduce number of trips.
- Strong financials to scale up service offerings and improve footprint
- Ability to upsell to existing client base with value added services such as cash processing, cash management, and smart safe solutions.
- Showcasing return on investment (ROI) to clients and justifying their decision to outsource both front-office and back-office cash handling services

5.4 Consolidated Position

Due to the necessity of scale and operational efficiencies, the cash management industry has also concentrated into duopolies globally. Consolidation has resulted in increased market share and improved business agility for scale players.

Exhibit 85: Market Share in Global CIT Market, FY 2021



Source: Industry Reports, Frost & Sullivan, Secondary Sources

Most of the global economies have transitioned to a duopoly with respect to cash management market, owing to consolidation. Countries such as Spain, Mexico and Argentina have their top two players in the global CIT space occupy more than 90% of the overall market share in the respective regions. Consolidation helps achieve business propulsion through multiple factors such as the following:

- Geographic expansion by increasing presence both across countries & within particular country in underserved communities (rural, Tier 2 cities)
- Improved financials through scale where small sized companies are acquired by bigger players without adding much cost base to the big players, which ensures that the revenue of the big players will fall mostly to profit before tax (PBT)
- Increase in efficiency of operations via scale

5.5 Conclusive Remarks

Cash management service providers throughout the world are investing in technology, IT systems, personnel training, and smart safe system developments to meet the growing demands of banks and shops seeking efficiency in their operations. Smaller service providers have been brought over by larger organizations, resulting in consolidation, or have quit the market due to weak margins, due to tougher regulations and a lack of funds to invest in technology and innovations.

In developed countries like the United States and the United Kingdom, banks and merchants are increasingly prepared to outsource their whole cash management procedures, indicating that India could soon follow suit. Despite the rise in digital payment transactions, cash usage is increasing in both developed and developing countries, putting banks and retailers at a disadvantage in terms of fixed costs. Differentiated services, such as end-to-end cash cycle, virtual vaults, secure transit of valuables, accretive acquisitions, and aggressive development in the enormous under-penetrated retail sector, are being introduced by industry participants.

6 Cash Management Market in India

Role of Cash Management Companies:

Cash management services comprises of three main services, namely: ATM cash management, Retail Cash Management (**RCM**) and Dedicated Cash-in-transit Vans (**DCV)** – vehicles used for cash transportation and cash replenishment activities. Cash management service providers also provide other services such as transportation of Jewels, Art works, valuables and Bullion, Cash Processing and Cash Vaulting Services.

The Indian cash management services market revenue grew at a high CAGR of ~10% during the period FY 2010 - FY2021, from ~INR 10 billion to INR 27.7 billion, majorly due to increase in services offered by the cash management companies including cash vault services, bullion management, cash processing and others. For example, of the cash replenishment services provided to the 255,000 total ATMs in India as of August, 2021, approximately 60% were outsourced to third-party cash management companies. Cash Management market had observed a decline in growth rate during FY' 2016 to FY'2017 due to effect of demonetization on the financial sector which negatively affected the profitability of cash management companies as majority of the ATMs remained out of cash during the period of demonetization. However post the demonetization phase, cash management has picked up momentum and continues to grow at a positive rate.

Similar to the demonetization period, the cash management market was affected by the impact of COVID-19, particularly the RCM and DCV businesses. The situation gradually reversed with recovery near pre-Covid levels seen except for certain sectors such as travel, hotels, discretionary spends etc., which continued to impact the RCM business.

India is predominantly a cash-driven economy- one that is culturally comfortable with cash transactions, particularly in the semi-urban and rural areas. Cash plays a critical role in enabling commerce and economic growth in India. Cash management, then becomes a critical market owing to the large volumes of cash transactions (over 70%) and the rising cash intensity in the nation.

The ATM base in India is expected to increase from 255 thousand in FY 2021 to 365 thousand by FY 2027 and outsourcing of cash management services are expected to play a key role in this expansion. New & replacement ATM outsourcing is significantly higher (60-80%) for all banks except Co-op/RRBs. PSB banks outsource two-thirds of their MS ATMs, barring few on-site ATMs that can be replenished in-house efficiently. Private Banks are increasingly finding value in outsourcing due to synergies within the RCM business. The big 3 private banks viz. ICICI, HDFC and AXIS have already achieved 90% outsourcing and rest of the private banks are expected to follow suit. With respect to WLAs, outsourcing is currently at around 60% and is expected to increase owing to the fact that in-house management of growing ATM base is proving to be costly and inefficient.

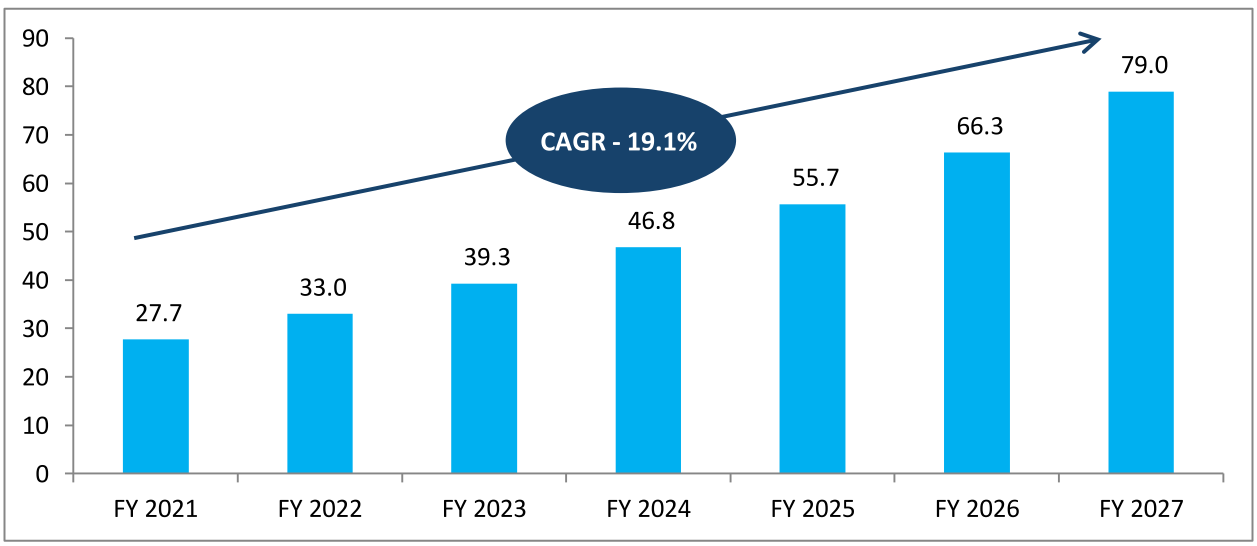
Organized retail sector is growing at an annual rate of 20%. Increasing customer base in the form of e-commerce, organized retail chains, jewelers, gold loan companies and hospital chains are positively driving the cash management market, especially the RCM business in India. These sectors handle large volumes of cash and use the services of private cash management companies. India's organized retail market is increasing at a 20-25 percent annual rate and is expected to contribute to 30% of the market share by FY 2025. With the increase in organized retail, the outsourcing arm of the cash management business is expected to increase.

The Indian cash management market is on a path towards consolidation, predominantly driven by players exiting the market space owing to strict compliance requirements and the increasing trust towards scale players. As evidenced in most global markets where cash management is a duopoly, the consolidation trend is projected to continue.

The total available market (TAM) for cash management (ATM cash management, RCM, DCV) stood at INR 27.7 billion in FY 21 and is estimated to reach a size of INR 78.9 billion in FY 27 growing at a CAGR of 19.1%.

The cash management market in India grew from approximately INR 10 billion in Fiscal Year 2010 to approximately INR 28.7 billion in Fiscal Year 2021, a CAGR of more than 10%, and primarily comprises the markets for ATM replenishment services, retail cash management services and cash-in-transit services, which are estimated to grow at a CAGR of 20.7%, 20.3% and 13.4%, respectively, from Fiscal Year 2021 to Fiscal Year 2027.

Exhibit 86: Cash Management Market, Market Revenue Growth Rate, INR Billions, FY 2017-21



Note: Market size estimates are as on March 2021

Source: RBI, Frost & Sullivan, Secondary Sources

ATM Cash Management Drivers:

Low ATM Penetration: The ATM penetration rate in India is significantly low, compared to countries like China, Mexico and Indonesia. With a focus on continued ATM deployment, particularly in the SURU regions, supported by the financial inclusion drive, the ATM penetration in India is expected to increase in the future.

Uptick in Outsourcing by Banks: Between Fiscal Year 2021 and Fiscal Year 2027, ATM cash management outsourcing is predicted to rise from 60% to 75%, representing a CAGR of 20.7%, owing to a higher share of BLAs (100% cash outsourcing) and 80% of ATMs added or replaced by private banks to be outsourced.

With the exception of a few on-site ATMs that can be supplied efficiently in-house, PSBs are expected to outsource two-thirds of their managed service ATMs (as evidenced in recent RFPs).

Favorable Competitive Dynamics: Sub-scale players are moving out of the business due to implementation of operating standards and customers increasingly prefer scaled players owing to the stronger track record and stable operations provided to them.

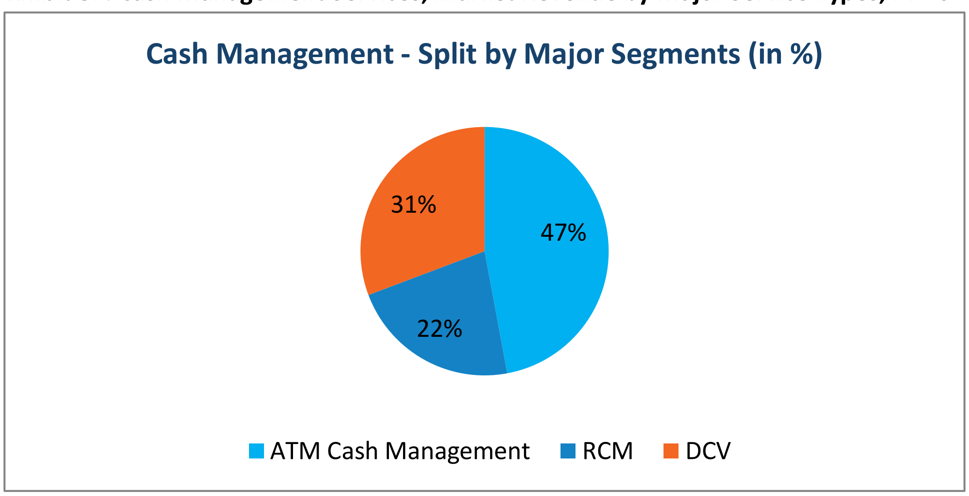
RBI Operating Standards: Recent RFPs indicate that compliance with RBI operating standards are driving increasing realizations and could potentially drive consolidation of the cash management market.

Increase in Interchange: The rise in interchange fee has increased the revenue potential of the entire cash management ecosystem, delivering increased visibility and attractiveness of ATM deployment.

7 Market Assessment by Service Type

ATM Cash Management business is the biggest segment holding about 52% of the market share in Cash management services market. Retail Cash Management (RCM) contributes to about 24% of the market revenue while Dedicated Cash-in-transit Vans (DCV) contributes to 24% of the market.

Exhibit 87: Cash Management Services, Market Revenue by Major Service Types, FY 2021



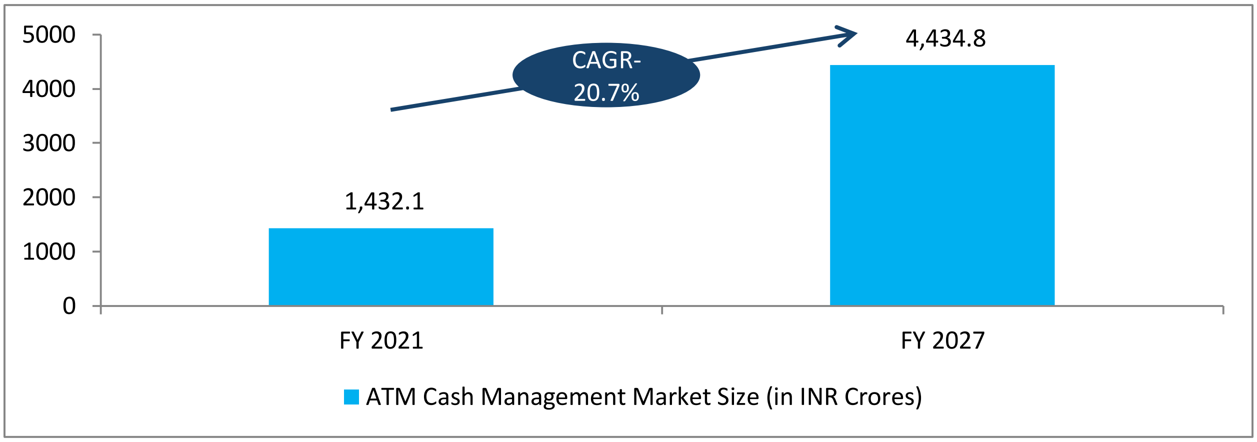
Source: RBI, Frost & Sullivan, Secondary Sources

Note: Excludes services such as CC management, bullion, vault and other auxiliary services as they form only a minor portion of the market share

Market Segment: ATM Cash Management

ATM cash management services includes ATM cash replenishment and first line maintenance services. The ATM cash management market size in India is estimated at a size of INR 1432 crores in FY 2021. This is expected to grow at a CAGR of 20.7% to reach a potential market size of INR 4434.7 by FY 2027. The projected growth in the number of ATMs and the potential for increased outsourcing in the upcoming years are key factors to the growth in this market.

Exhibit 88: Cash Management Services, ATM Cash Management - Market Forecast, in INR Crores, FY 2021-27



Note: Market size estimates are as on March 2021

Source: Frost & Sullivan, Secondary Sources

Market Drivers for ATM Cash Management

Increase in Number of ATMs

Since the ATM Cash Management market has a direct correlation with the ATM market growth, the increase in the ATM deployments would have a significant impact on the ATM cash management market growth. The market is expected to grow with the help of demand in the Tier II and III regions and with replacement demand. The recent hike in ATM interchange is also expected to push ATM deployments, WLAs in particular. Bank mergers & balance sheet cleanups have largely materialized and as PSBs are returning to expansion mode - substantiated by recent RFPs for ATM deployment, the pent-up demand for ATMs in India is expected to be addressed.

Market Restraints

Rising Mobile Wallets and Digital Transactions

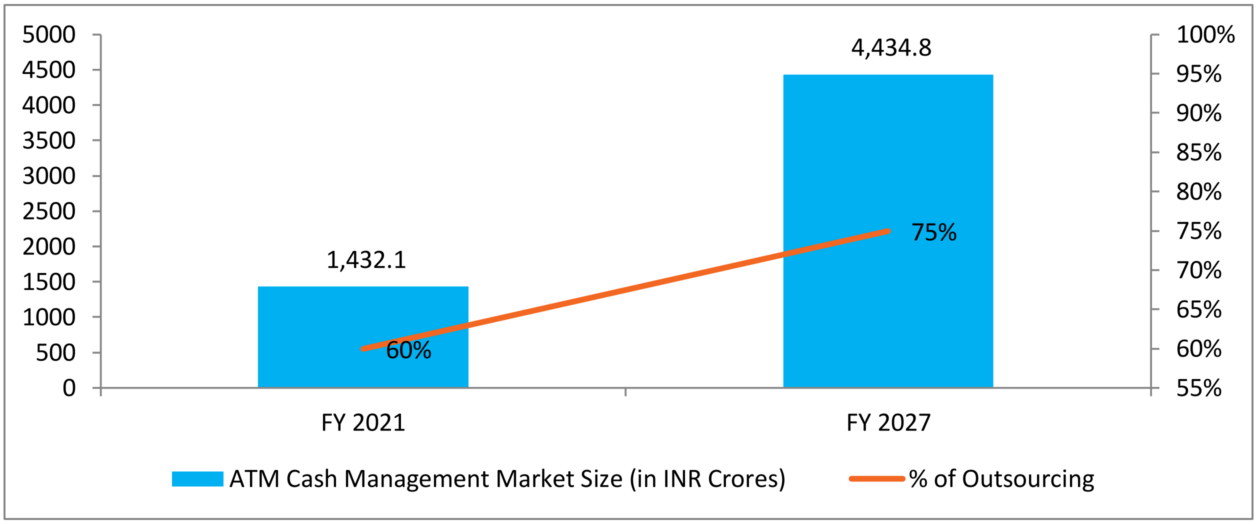
Increasing payments through mobile wallets and other digital alternatives are expected to reduce the volume of cash transactions in urban areas in the long term. Such drop in demand will further increase the competition pressure for cash management companies.

Security Challenges and Compliance Risk

Service providers always carry a risk during cash transfers and ATM Cash Management usually involves the transfer of large amounts of cash. Hence security challenges during unprecedented times (such as COVID-19), could become hotspots for service providers to address from a risk standpoint. Similarly they also have to adapt to changing compliance landscape and requirements from RBI.

8 Outsourcing Drivers for ATM Cash Management

Exhibit 89: ATM Cash Management Outsourcing – Market Revenue Forecast, INR Crores, FY 2021-27



Note: Market size estimates are as on March 2021

Source: RBI, Frost & Sullivan, Secondary Sources

- Between FY 2021 and FY 2027, ATM cash management outsourcing is predicted to rise from 60% to 75% (CAGR of 20.7%), owing to a higher share of BLAs (100 percent cash outsourcing) and 80% of ATMs added or replaced by private banks to be outsourced.
- The ATM cash management outsourcing is expected to be predominantly driven by larger share of BLAs (approximately 100% cash outsourcing) and about 80% of ATMs added or replaced by private banks that can be potentially outsourced.
- Another key driver for the growth in outsourcing is the shift from the PSBs towards the BLA model, mimicking the private banks, to expand their ATM network
- New and replacement ATM outsourcing is considerably higher (60-80%) for all categories of banks except Cooperative Banks and Regional Rural Banks
- With the exception of a few on-site ATMs that can be supplied efficiently in-house, PSB banks are expected to outsource two-thirds of their MS ATMs (as evidenced in recent RFPs). PSBs are expected to have almost totally converted to BLA ATMs by 2025.

9 Retail Cash Management

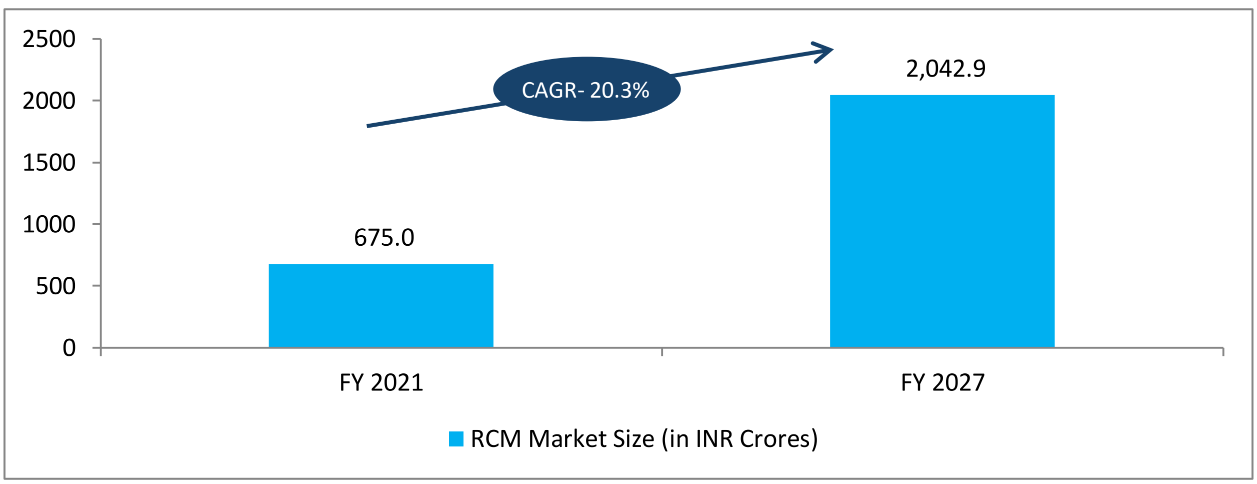
Retail Cash Management (RCM) constitutes cash pick-up and delivery and treasury solutions for retailers.

The transportation of cash and valuables to and from retail or other private establishments that deal in substantial amounts of cash and valuables is referred to as retail cash management. Depending on the client and bank agreement, the service may also include cash processing and overnight vaulting. Cash is delivered on behalf of retailers or private businesses, either to be deposited in a bank or to be distributed among the retailer's various branches. Cash pickup and cheque collection services, demand draft and travellers' cheque delivery services, and other services are available at the client's doorstep.

- In India, there are over 30 million retail outlets, with around 15 million of them being kirana stores. Small-scale retail businesses with modest cash volumes account for another 12 million establishments. From an RCM standpoint, only roughly 3 million retail points are addressable in India. There has been a significant increase in demand due to the expansion/proliferation of NBFCs, e-commerce, and other enterprises, as well as their expansion into Tier 2+ cities, leading to far greater share of cash on delivery. In 2020 COD constituted more than 65% of all e-commerce payments, indicating the significance of cash with respect to payments. Also the share of COD payments is more pronounced as we move from metros (~50% COD) to lower tiers such as tier 2 (~70% COD) and tier 4 regions (~90% COD). As the e-commerce penetration increases in these lower tiers, the share of COD payments is also expected to increase correspondingly.

CMS, Radiant, and Writer Safeguard dominate the Retail Cash Management market, accounting for more than 75% of the total market share.

Exhibit 90: Retail Cash Management Market, INR Crores, India, FY21-27



Note: Market size estimates are as on March 2021

Source: Frost & Sullivan, Secondary Sources

The RCM market is estimated at INR 675 crores in FY 2021 and is projected to reach a market size of INR 2042 crores by FY 2027, growing at a CAGR of 20.3%. The growth in the organized retail sector as well as the corresponding outsourcing potential is expected to be prime factors for the development of the RCM market in India.

Market Drivers

Increasing Number of Retail Points

The organized retail sector is rapidly growing as a result of the increasing and changing consumption patterns of Indian customers. While traditional or unorganized retailing arrangements continue to flood the retail market, organized retail is growing at a faster rate and engulfing traditional retailing. Organized retail sector is growing at an annual rate of 20%.

Increasing Penetration of E-commerce and Cash-on-delivery in Lower Tiers (Tier 3 & Tier 4 Regions)

Given the importance of cash in India, e-commerce companies like Flipkart changed their business models to accept COD as a payment mechanism. The inclusion of COD as a part of India's e-commerce ecosystem unlike Western markets where COD is not commonly adopted, highlights the power of cash.

While larger cities such as Mumbai, Delhi, Bangalore, and others have seen a considerable increase in prepaid orders, the vast majority of buyers in tier 2 and tier 3 cities (90%) still prefer to pay in cash. Many states are also seeing increasing e-commerce adoption rates owing to the availability of COD. COD is seeing a significant increase in the Northeastern states and other SURU regions, making e-commerce last-mile penetration easier. As the penetration of organized retail increases in the lower tier regions, the potential for cash management services also increases correspondingly.

Focus on Value-added Services: There is a growing focus on solution-oriented and value-added services in order to increase realization rate from the solution delivery perspective. Vendors are increasingly looking towards smart safe solutions with dynamic and real-time reporting capabilities to improve efficiency.

RBI Operating Standards: Compliance requirements drive consolidation and maturity of the cash management industry owing to multiple participants withdrawing due to cost concerns. Also there is a potential to drive realization rates with respect to compliance towards RBI operating standards.

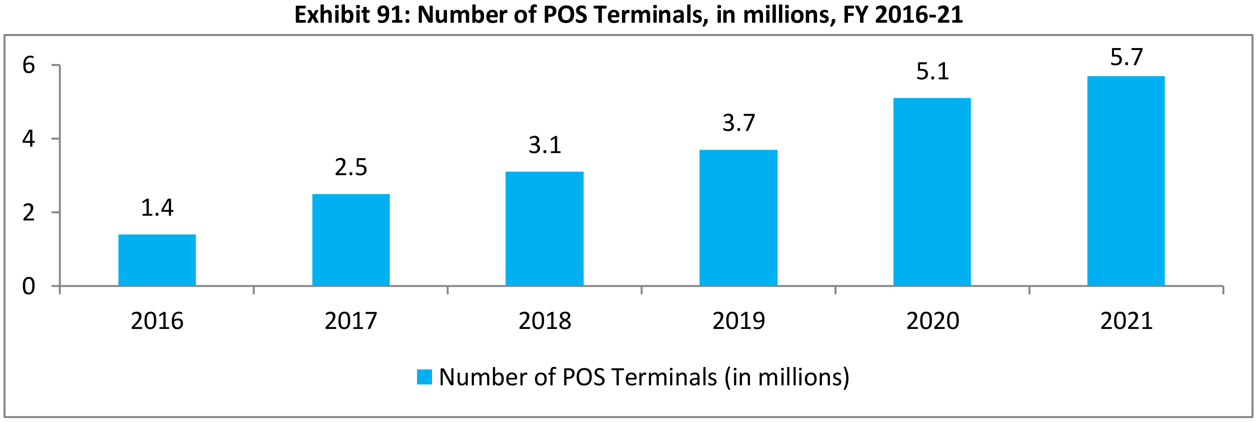
Market Restraints

Increase in Penetration of POS Terminals/Devices in the Retail Sector

In an on-going effort by the public sector banks to discourage the use of cash and increasing penetration of card infrastructure in the retail sector the deployment of POS terminals or devices is growing.

Exhibit: Number of POS terminals in India, 2016-2021

Exhibit 91: Number of POS Terminals, in millions, FY 2016-21



Note: Data forecast and projections as of Sep 2021

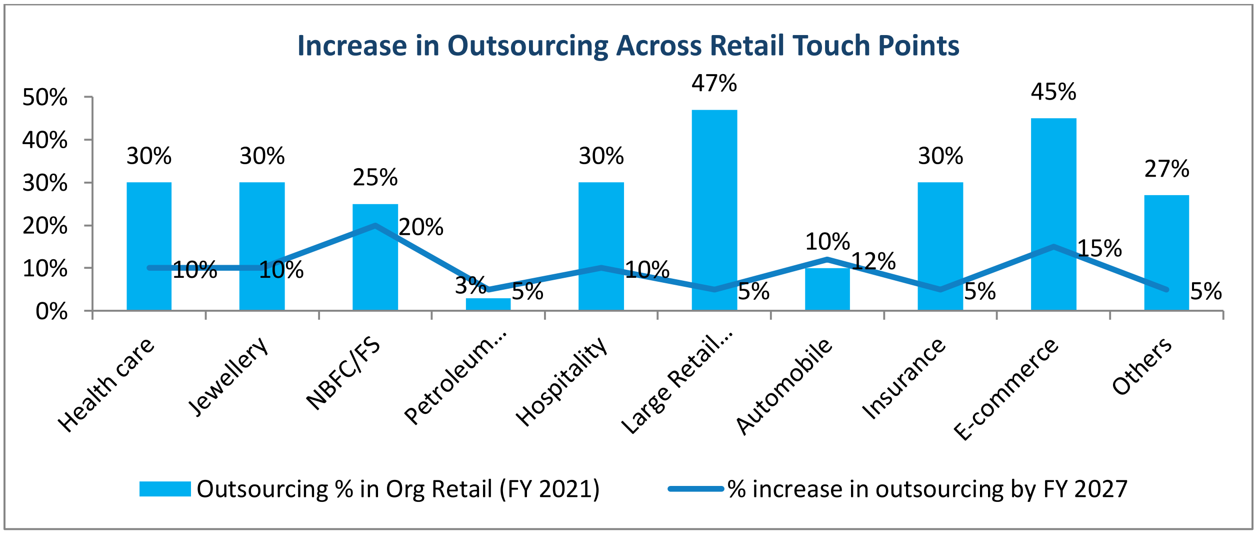
Source: RBI, Frost & Sullivan, Secondary Sources

Rising Mobile Wallets and Digital Transactions

Increasing payments through mobile wallets and other digital alternatives are expected to reduce the volume of cash transactions in urban areas in the long term. Such drop in demand will further increase the competition pressure for cash management companies.

10 Outsourcing Drivers for RCM

Exhibit 92: Growth of Outsourcing across Retail Touch Points, in %, FY 21-27



Note: Data forecast and projections as of Sep 2021

Source: Frost & Sullivan, Secondary Sources

Exhibit 93: Growth of Outsourcing across Retail Touch Points, in 000s, FY 21-27

	Industries	FY 21	FY 27
Retail Touch Points	Healthcare	970	1,428
	Jewelry (stores)	500	767
	NBFC branches	106	140
	Petroleum Industry (petrol pumps)	80	127
	Hospitality (HoReCa)	55	83
	Large Retail Formats	37	50
	Automobile (dealer showrooms, service centers)	30	34
	Insurance branches	20	25
	Ecommerce Logistics (distribution centers, 3PL points)	15	45
	Others (railway stations, utility offices etc.)	1,200	1,400
	Number of addressable retail touch points	**3013**	**4099**
% of Organized		15%	20%
	Number of organized retail touch points	**452.2**	**813**
% of Outsourcing		24%	28%
	Retail touch points available for cash management	**110**	**224**

Note: Data forecast and projections as of Sep 2021

Source: Frost & Sullivan, Secondary Sources

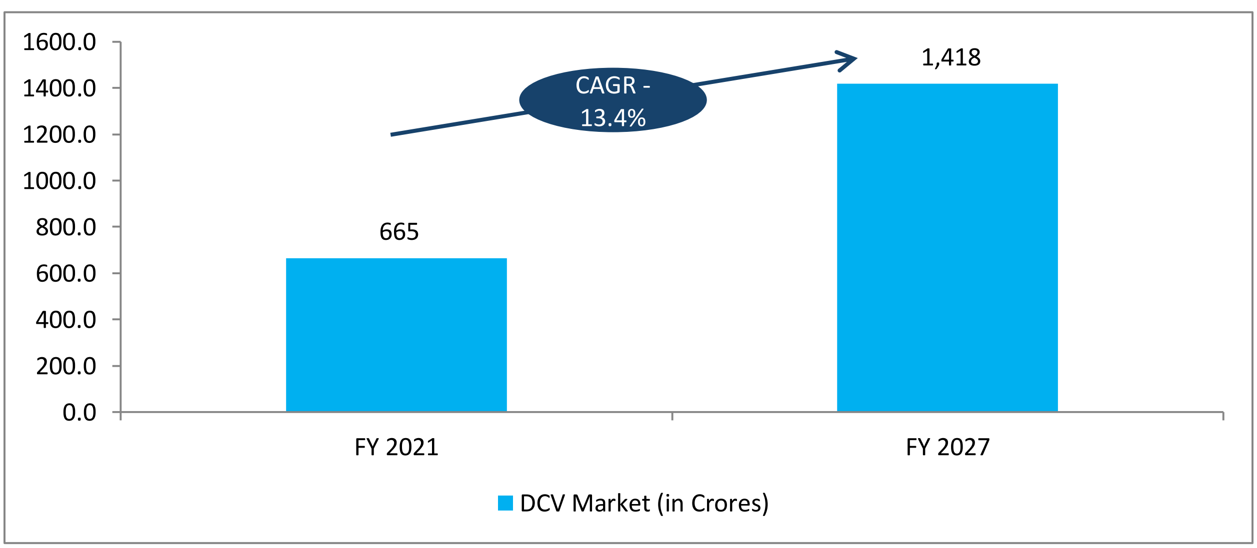
- Increasing preference for cash mgmt. services among retailers
- Market driven by convenience as rather than spending own resources (e.g., sending staff to banks for cash deposits) retailers chose to pay for bank services (incl. retail cash vaults) driving higher convenience
- Increasing organized retail outlets lead to increase in demand for ancillary services like retail cash vaults
- Increasing number of retail outlets crossing threshold of volume of cash collections – making it viable to avail cash mgmt. services
- High demand from T2+ cities driven by select industries and increasing reach in these areas
- As E-commerce logistics expands into Tier 2+ cities (having higher share of COD) it can potentially lead to a huge increase in demand for cash mgmt. services
- NBFCs are expected to have high concentration of branches in rural areas
- Expected entry of organized retailers in smaller towns

11 Dedicated Cash Vans (DCV)

Dedicated cash-in-transit business involves leasing out of cash vans for movement of cash and other valuables between bank branches, bank vaults and RBI.

The DCV market in India is estimated at a value of INR 665 crores in FY 2021 and is projected to reach a market size of INR 1418 crores by FY 2027. The number of DCVs in India is also expected to increase from 6720 in FY 2021 to 7500 by FY 2027, growing at a CAGR of 13.4%. With respect to DCVs, compliant vans have a higher realization rate per van per month (at approximately 185k), and with the potential increase in compliant vans, owing to regulatory push, the DCV market is expected to increase by 13% between FY 21 and FY 27.

Exhibit 94: Dedicated Cash Vans Market in India, INR Crores, FY 21-27



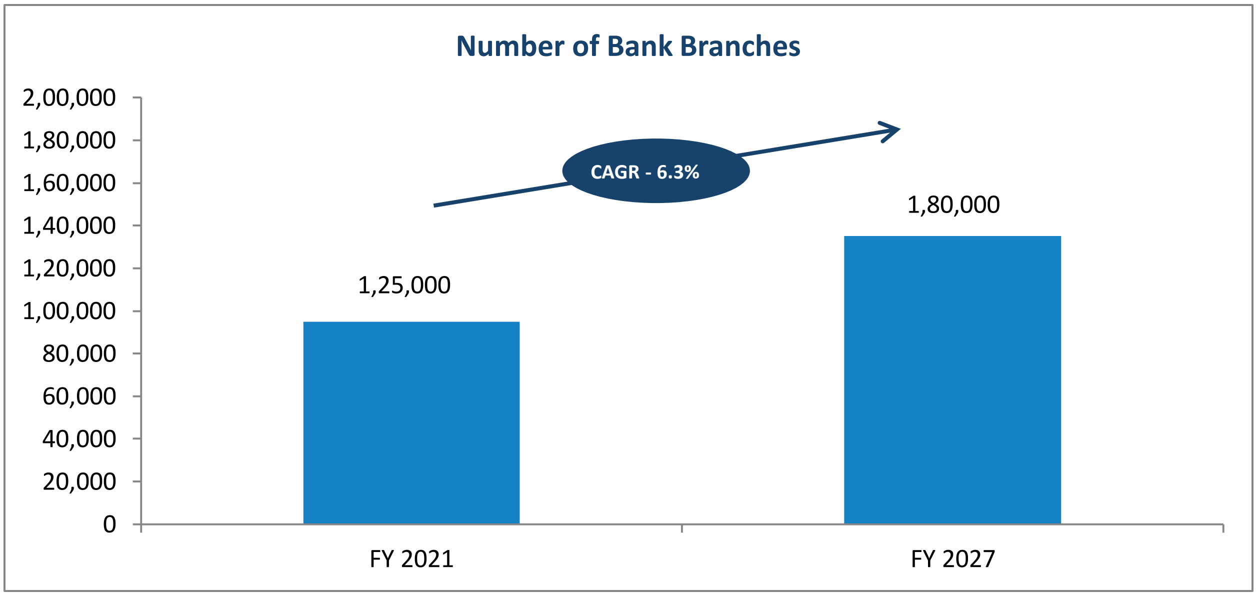
Note: Market size estimates are as on March 2021 *Source: RBI, Frost & Sullivan, Secondary Sources*

Market Drivers

Increase in Bank Branches

As of FY 21, there were approximately 125,000 bank branches in India and this is expected 180,000 by FY 27. As per the latest RBI estimates, the number of bank branches for scheduled commercial banks as on June 2021 is approximately 150,182. Due to expansion of banking services in rural areas and formulation of innovation models, the number of bank branches is expected to grow further accentuating the cash management services market.

Exhibit 95: Number of Bank Branches in India, FY 21-27



Note: Data forecast and projections as of Sep 2021

Source: RBI, Frost & Sullivan, Secondary Sources

Growth in currency-in-circulation: CIC is predicted to grow at a robust 10%+ rate in the future, roughly in line with or slightly slower than long-term nominal GDP growth. By 2027, CIC is estimated to reach 50 billion rupees. CIC has increased in developing and emerging nations in lockstep with GDP growth, regardless of whether or not digital payments have been adopted.

Increase in outsourcing of dedicated cash vans: Owing to RBI mandates there is an expected increase in compliant vans for cash transfer. The cost overheads of meeting changing compliance requirements may lead to banks to writing off existing vans and outsource the DCV business to specialized players.

Shift from unorganized to organized service providers: As the requirements for compliant vans increase, banks will increasingly outsource their DCV operations to compliant players as opposed to unorganized players, thereby increasing the proportion of outsourcing.

Market Restraints

Increasing Digital Payments:

Digital Transformation (Digi-wallets and Funds transfer) – Increased penetration of mobile banking, and other forms of digital payments can hamper the growth of cash management and the DCV market.

Banks are considering digital transformation to curtail cost of cash operations and also to connect with a larger base of customers and provide services at low cost.

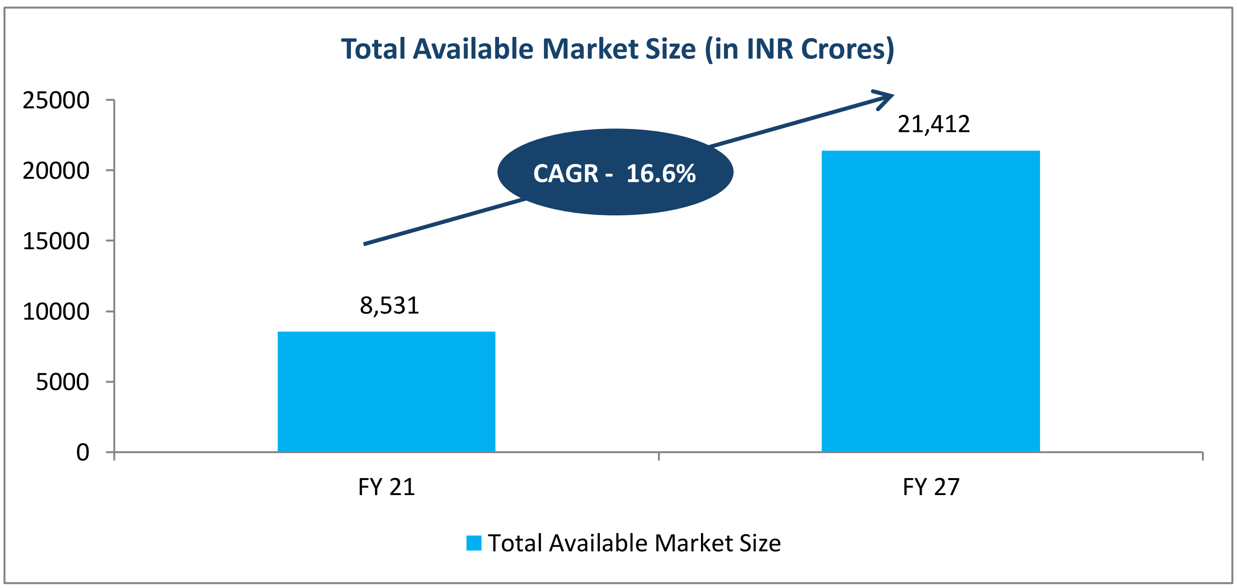
Security Concerns

The theft of DCVs is not an uncommon issue that presents a challenge with respect to security and hence DCV operators need to spend more on security related aspects and are liable to take responsibility for any cash that is lost in transit.

12 Available Market Size

The total available market (TAM) for cash management (ATM cash management, RCM, DCV), product sales (including AMC), Managed Services (MS ATMs and BLA), Multi-vendor Software (MVS) and Remote Monitoring stood at INR 8,531crores in FY 21 and is estimated to reach a size of INR 21,412 crores in FY 27 growing at a CAGR of 16.58%.

Exhibit 96: Total Available Market for Cash Management and Related Services, FY 21-27



Note: Market size estimates are as on March 2021

Source: Frost & Sullivan, Secondary Sources

13 Competitive Landscape

From a market competition standpoint, there are broadly three key archetypes of players in the cash management market in India:

- Cash Management service providers (e.g. CMS, WSG, Radiant, Securevalue, Brinks etc.)
- ATM Managed Services Providers (e.g. CMS, Hitachi, FSS, FIS, NCR, Euronet etc.)
- Product / Software players for ATMs (e.g. CMS, Hitachi, NCR)

Exhibit 97: Competitive Landscape – Service Portfolio of Top Players, March 2021

	Cash Management	Managed Services	Product & Software
Description	Involves all cash management services across segments: – **ATM**: Cash replenishment / logistics of ATMs – **RCM**: Cash mgmt. between retailers & banks – **DCV**: Leasing out vans to banks for cash mgmt.	Involves all services related to end-to-end management of ATMs including product deployment, AMC, BLA, software, remote monitoring and others	Involves ATM product sales, deployment, and software sales
Key Players	– **ATM**: CMS, WSG, SIS, SVIL – **RCM**: CMS, Radiant, WSG, Brinks, Securevalue – **DCV**: CMS, SIS, Checkmate	CMS, Hitachi, FIS, NCR, FSS, Euronet, Diebold Nixdorf	CMS, Hitachi, NCR

Source: Frost & Sullivan, Secondary Sources

Securevalue, a wholly-owned subsidiary of AGS Transact Technologies, is primarily on focusing on captive ATM cash management and stands second to CMS in terms of the total number of ATMs served. Radiant, after having exited the ATM cash management business, is currently focusing on the RCM segment.. Other smaller players have been defocusing on different segments, and focusing on a single, profitable segment. CMS is one of the very few companies that has its presence across most of the segments across the cash management value chain. CMS has a higher number of ATMs and retail cash vaults (**RCV**)- provision of a safe storage space for cash, than any of its competitor in the Indian market.

Exhibit 98: Competitive Landscape – Comparison of Top Players , FY 21 (July 2021)

Company	No. of employees	ATM Cash Management (# of ATMs)	Retail Touch Points (RCM)	RCV (# of vaults s)	DCV (# of vans)
CMS	20,000	63,000	40,000	400	900
Securevalue	8,716	47,569	Data Not Available	45 locations	Data not available
WSG	8,000+	18,000	12,000	60+	Not Applicable
SIS	Data Not Available	14,000	5,000	59	1,000
Brinks	7,000	<5000	Data Not Available	Data Not Available	Not Applicable
Radiant	9,300+	Not Applicable	42,420	Data Not available	Data Not Available

Source: Frost & Sullivan, Company Websites, Industry and Secondary Sources

In India, the cash management business is becoming increasingly consolidated, with two distinct market leaders dominating each of the three segments, such as CMS & Securevalue in ATM Cash Management, CMS & Radiant in Retail Cash Management, and CMS & SIS in the DCV segment. As of March 31, 2021, CMS is India's largest cash management company based on number of ATM points and had a market share of 24.7%, based on the total number of ATMs in India, as well as a market share of 41.1%, based on the total number of outsourced ATMs in India. As proven in most worldwide markets where cash management is a duopoly and scale promotes profitability, such consolidation trends are projected to continue (through route optimization and productivity). India, like other global markets, is set to become a duopoly in the next 5 years, with the top two firms expected to have a combined market share of 90% by FY27. As a result, companies like Radiant and Brinks have sold or scaled back their ATM cash management operations because to low profitability, onerous compliance requirements, and other factors, and are now concentrating on RCM as their primary market.

Key Trends:

- ***Integrated Offerings:*** Only large companies like CMS and Secure Value (AGS) have been able to provide integrated solutions across segments.

- ***Focus on specific segments:*** A lot of smaller businesses are focusing on specific segments. Radiant, for example, has decided to focus only on the RCM industry after selling its loss-making ATM operation. Brinks, another key player, reduced their ATM cash management business by withdrawing from numerous locations in favor of a greater concentration on RCM and other services such as bullion.

- ***Increasing Market Consolidation:*** In recent years, the market has undergone significant consolidation, particularly as a result of the RBI's stricter compliance standards, which have resulted in higher compliance costs. Examples from the past include, Logicash selling its ATM CIT business to CMS, while Checkmate abandoned its loss-making RCM business. Consolidation of MSP customers is also taking place as a result of players either exiting the cash management space or selling parts of the business due to challenges in operations and profitability, particularly for sub-scale businesses and also focus by other players on their core businesses.

Consolidation Opportunity

The cash management market has experienced significant consolidation over the recent years predominantly owing to strict MHA guidelines and smaller players exiting the market owing to challenges in maintaining profitability.

Exhibit 99: Consolidation Opportunity for ATM Cash Management (in %), FY 18-21

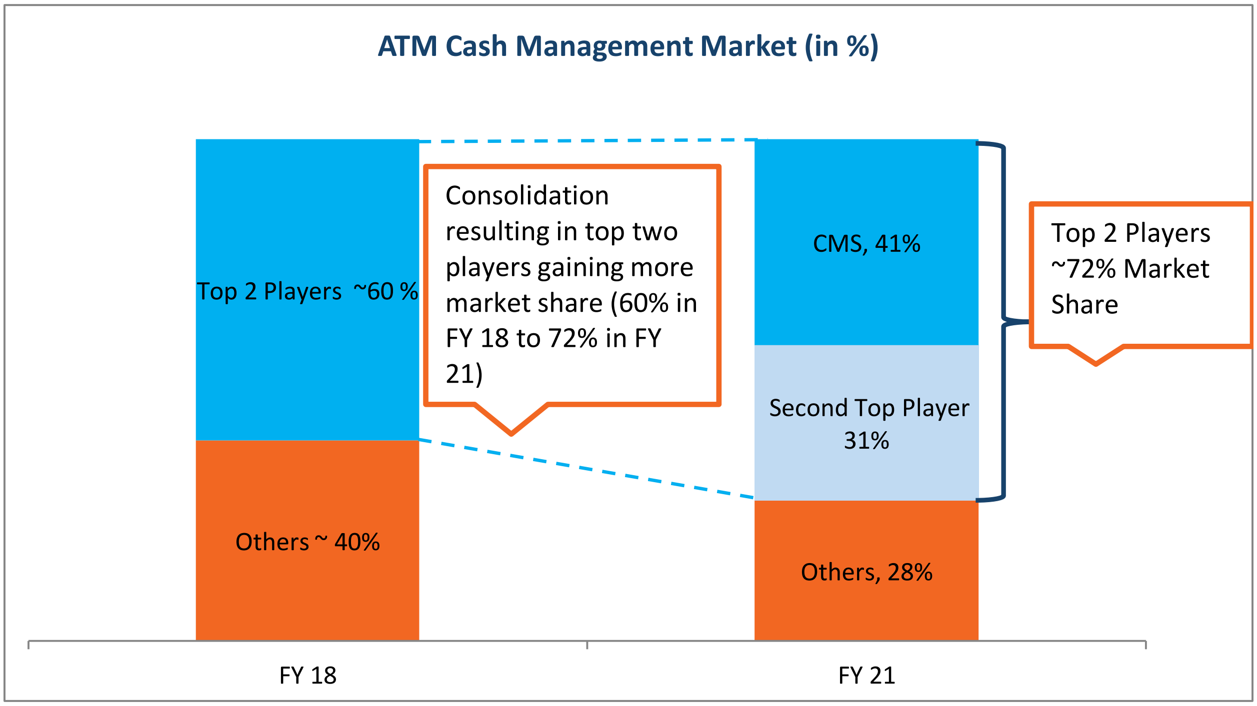
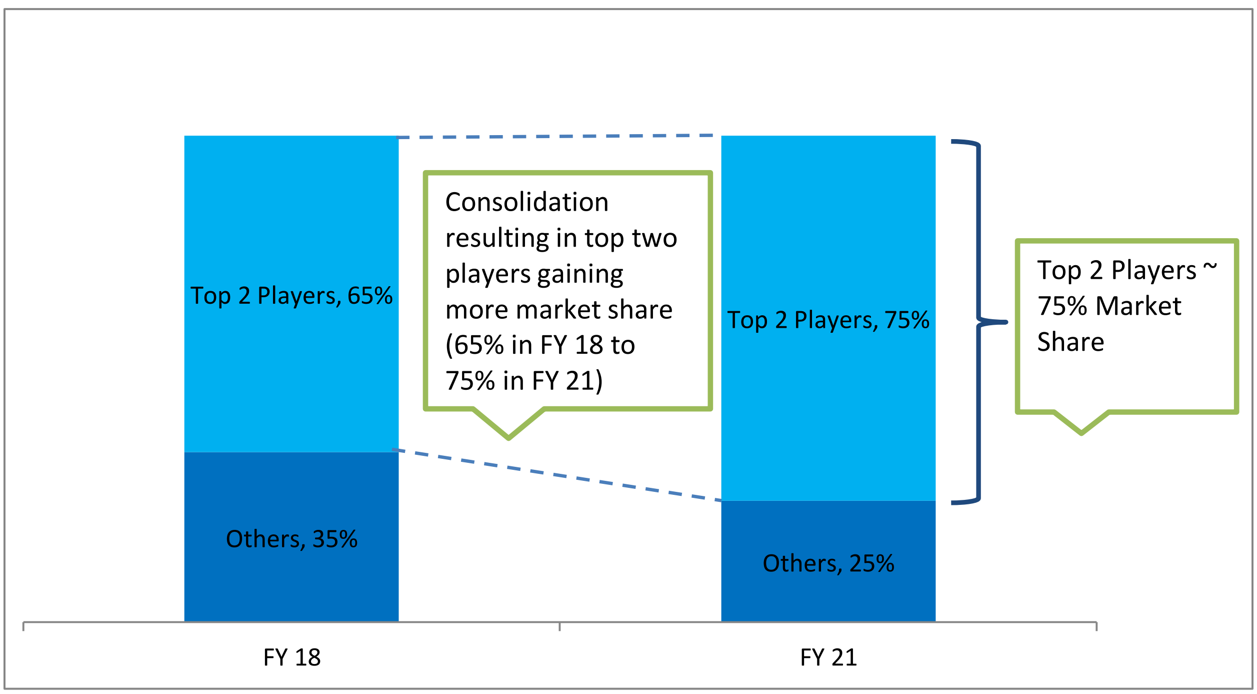


Exhibit 100: Consolidation Opportunity for RCM (in %), FY 18-21



Note: 1. ATM Cash Management market share is based on the number of outsourced ATMs in India

2. RCM Market share is based on the total number of retail touch points served in IndiaSource: Company Reports, Frost & Sullivan, Secondary Sources

Consolidation in the market has resulted from multiple factors such as :

RBI MHA compliance guidelines: Sub-scale players have exited the CIT market because to drastically increased expenses in achieving regulatory standards, according to RBI MHA compliance rules (applicable across segments ATM, RCM and DCV). The following are some of the guidelines' requirements:

- CIT players' financial strength: 1000 million rupees in net worth

- Vehicle and crew requirements: 300+ cash vans in service, a minimum crew size of 5, and additional vehicle specifications (e.g. CCTV, GPS etc.)

- The 'Add cash' model will be replaced by the 'Cassette swap' model.

- Premise standards: Minimum standards for all vaults, as well as CCTV monitoring with at least 90 days of recording.

Business Continuity: Due to low profitability caused by the network effect (where the more services bundled in one route, the higher the usage of fixed assets and route optimization), business continuity has become a challenge.

Reliability: Customers are increasingly turning to scaled players because they have a better track record and more reliable operations, as well as a greater ability to meet compliance standards and ensure business continuity (top KPCs for vendor selection)

13.1 Key Competitive Factors to Succeed and Grow in the Market

- Service efficiency is a key factor to buy customer's confidence as cash management is a "mission-critical" operation. Factors such as on-time response and turnaround times in case of ATM malfunction and ensuring increased ATM and cash availability, lowering the total cost of ownership (TCO) for ATMs enables banks to spend less time on managing cash and more time on their core activity.
- When trying to market higher value services such as front office cash management, back office cash recycling, and cash smart safes, consultative sales approach and expertise in subject matter are essential success factors.
- The ability to deliver excellent core services (such as ATM replenishment) to banks and retailers is successfully crafted, companies must reposition from vendor to business partner model by constantly acquiring higher order capabilities in managing cash spanning across the entire cash services supply chain. This benefits banks and retailers to decrease costs associated with cash handling and improved safety and faster provisional credit to the money earned during a business day.
- Cash management service providers must monitor the fleet regularly so as to optimize the route using advanced GPS systems and fleet management and route management software. Tracking driver's driving behaviour, fleet maintenance aspects such as making vehicles roadworthy, and route planning to narrow time, confirm status of trucks dispatched are essential aspects to continuously improve performance.

- Apart from this, cash management companies are also working on improving operating efficiency through measures such as cash loading reporting, RCM same-day reporting etc.

13.2 Vendor Selection Criteria Adopted by Banks for Cash Management

The following are the important parameters evaluated by banks in selecting a vendor for managing their cash operations.

- Geographic reach of the service provider
- Quality of Service and strong preference for companies who provide stability in services repeatedly (reliability)
- Financial Strength of the company and business continuity
- Proven track record and years of Experience
- Strong relationship with banks
- Project references with certificates from existing customers

Impact of COVID-19

Overall:

The COVID-19 pandemic had a significant impact on the Indian cash management market. Large interest rate cuts slashed profits, while quantitative easing boosted market liquidity to new heights. Banks also benefited from corporates using their uncommitted lending capabilities to keep cash on hand during the pandemic. People utilized cash transactions more owing to the tendency to hoard cash during times of uncertainty to meet liquidity requirements.

The effects of the pandemic were felt by almost all the end-user industries - both large and small. Economic activity came to a halt as a result of the measures adopted to combat the spread of COVID-19, such as national and regional lockdowns, which had an impact on both consumption and investment. While Indian enterprises, with the exception of a few sectors, were able to avoid the global supply chain disruptions created by COVID-19 due to a lower reliance on intermediate imports, exports were severely harmed. Overall, the GDP's three primary sources - private consumption, investment, and external trade - were all impacted.

Implications on the industry:

In comparison to the previous year, CIC increased by more than 22%. States with a lower pandemic impact, such as Rajasthan and Bihar, outperformed states with a larger pandemic impact, such as Maharashtra, Delhi, West Bengal, Andhra Pradesh, and Tamil Nadu, in terms of currency circulation. But the drop in economic activity had a considerable impact on cash circulation.

While essential services were permitted to continue during lockdown periods, most of the frontline business operations were affected by the effects of COVID-19. Sectors such as travel, retail etc., that heavily rely on face-to-face participation, were largely affected owing to the lack of movement of people and goods.

Recovery:

While most of the industries were affected by the first wave of the COVID-19 pandemic in India, the introduction of vaccines early in 2021 helped to instill optimism in the general public and the Government to allow businesses to resume their operations. While the second wave of COVID-19, in early 2021, also had an impact on the Indian economy, the lockdowns were relatively relaxed and people were prepared to handle the crisis as compared to the previous year. With a large section of the population vaccinated and most of the businesses returning to pre-covid levels, the recovery looks sharper as compared to the first wave in 2020.

In the critically affected sectors such as discretionary and travel & tourism, hospitality, etc., the RCM business took a hit as it relies on the movement of cash on a regular basis. As economic activity returns to normal levels, the RCM business is expected to increase consequentially, particularly in the retail sector.

Conclusive Remarks

As the relevance of cash reduces in the future, the cash management market is expected to encounter competitive challenges. It will further concentrate the market, and industry participants anticipate that competition would be limited to three or four organizations that can service Pan-India and mobilize capital efficiently. Many regional enterprises are predicted to succumb to market pressures and depart the business or combine with market giants throughout the consolidation process. The growing requirement for standardization will make it more difficult for small and regional businesses to compete in this industry. International corporations who have yet to establish a presence in India could enter the market by acquiring such regional companies in the future, creating fierce competition in the sector. In order to alleviate the issues posed by the drop in cash, cash management firms are projected to play a larger role in the future. As seen with players in mature markets, cash management organizations are projected to expand their service portfolio into additional value chain segments.

The total available market (TAM) for cash management (ATM cash management, RCM, DCV) stood at INR 27.7 billion in FY 21 and is estimated to reach a size of INR 78.9 billion in FY 27 growing at a CAGR of 19%.

The ATM managed services market includes components such as ATM products, AMC, pure managed service (bank-owned ATMs), BLA, MVS and remote monitoring services. The managed services market stands at INR 68.1 billion in FY 2021 and is expected to reach a market size of INR 170.9 billion by FY 2027, growing at a CAGR of 16.5%.

The overall TAM (Total of TAM for cash management and TAM for managed services, less any overlaps) stood at INR 85.3 billion in FY 2021 and is expected to reach a size of INR 214.1 billion by FY 2027, growing at a CAGR of 16.6%.