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How Far and How Fast Can Cryptocurrency Enhance Financial Inclusion in India? A Theoretical Approach

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Abstract: Cryptocurrency, the new mantra as a lucrative financial investment and an asset with value, has made waves across the globe and so in India. The covid-19 pandemic gave a fillip to cryptocurrency market wherein the young adults of India perceived trading with this new type of asset as a profit-making and cost-effective one. There was a surge in cryptocurrency trading which plummeted post pandemic. Cryptocurrency entered India in the early decade of 2010's and there were twists and turns in legalizing it, as Government of India and the central bank of the country are vociferous in bringing it under regulation, if not banning it. Irrespective of these events, the cryptocurrency favourites prophesy that this asset is capable of increasing financial inclusion in developing countries like India. No doubt, the various schemes starting from the no frills account to the Pradhan Mantri Jan Dhan Yojana has encompassed the unbanked population into the banking ambit. But financial inclusion is just not about availing the basic banking facilities. Its scope is much wider and deeper. How well has the Indian population equipped itself by availing the various schemes initiated by the Government of India and the central bank to increase financial inclusion? In the current scenario, is the majority of the population ready in making a sound financial decision at the individual/ household level which forms the genesis of financial inclusion? This paper theoretically attempts to address the above questions.

Index Terms: Cryptocurrency, digital literacy, financial inclusion, financial literacy, taxes on virtual digital assets

INTRODUCTION

The term 'money' itself has evolved over time. To answer the question, 'what is money?' would be highly subjective in nature. Money means different things to different people. However, through time, to bring in efficiency, transparency and simplicity for every financial transaction that may occur, a commodity which serves these properties has been termed as 'money'. Thus, the modern day 'money', or, assuming the simplest form of money - 'currency', has evolved with its four basic functions: a medium of exchange, having a store of value, a unit of account and has a standard of deferred payments. Closely associated with these functions evolved the different kinds of money that are equivalent to 'currency' – the plastic cards (debit card and credit card). Technology advancement gave a fillip to the medium of exchange function of money in the form of online transactions. National Electronics Funds Transfer (NEFT), Real Time Gross Settlement (RTGS), Unified Payments Interface (eg. BHIM, PhonePe etc.), e-wallet and m-wallet have become common parlance in layman's everyday transactions – ranging from groceries and vegetables to organizational business transactions and payments.

Though the form of currency has metamorphosed tremendously over time, it was supervised and governed in all its forms and kinds – through the regulating authority of the respective country, the Central Bank or the Treasury. In India, the regulating authority is the Reserve Bank of India, the central bank of the country. The regulatory body was felt to be a middleman by some. This was because of the transactions costs and other charges (transparent or hidden) that started playing a significant role when many transactions were made. However, regulation also meant transparency and trust on the commodity that served as 'currency'. Ousting the regulatory authority, yet, maintaining trust and transparency in transactions led to the evolvement of 'cryptocurrency'. Being a developing country with more than 65% of the population residing in the rural areas, cryptocurrency has made a wave in both urban and rural India alike – it ebbed during the covid-19 pandemic and touched a low when the economy started reeling under inflation post pandemic. In this backdrop, this theoretical research investigation tries to unlock the following pertinent questions: Is the growth of cryptocurrency investment in India spurious? Can it help in increasing financial inclusion as claimed? If so, how far and how fast can this happen? What are the essentials for an investor to operate in a cryptocurrency market? Are they requirement-ready? These questions are dealt in the following sections.

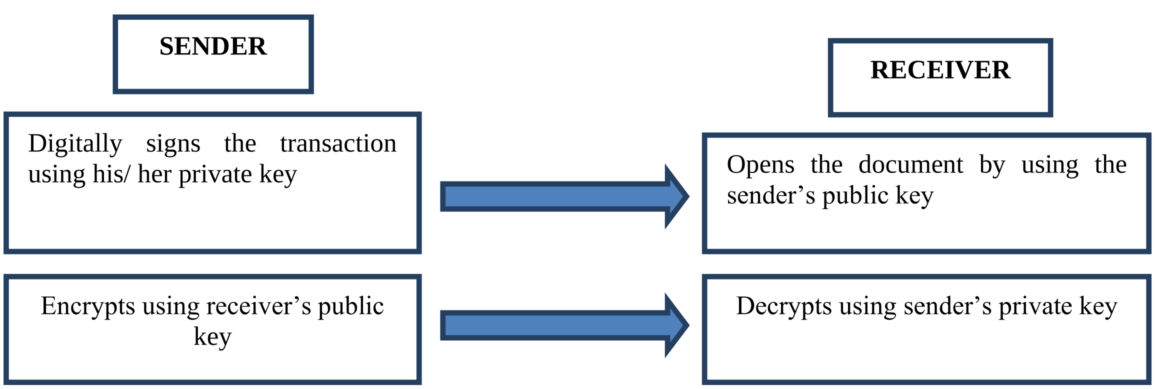
1. India, Cryptocurrency and the Tax Law: The Triad

Virtual currency, or more popularly cryptocurrency, is the latest evolution of money as a currency across the globe. Barter system or exchange of goods for goods, paved way for commodities like gold, silver, copper and other alloy to be held as currency at different points in time. The perishable nature of commodities in barter stipulated a store of value and medium of exchange properties that had to be considered as currency. These features initiated the gold standard, the silver standard and the bi-metallic standard to be followed in countries, alongside other metals and alloy as smaller coins. However, paper currency became the standard form Gradual technology advancements brought in easiness of transactions in the form of plastic cards (debit and credit cards), online payments and digital payments. All along its evolution, currency was regulated by the Central Bank of every country while cryptocurrency (crypto) evolved with a special feature of 'non-regulation by any authority' but keeping 'trust' in transactions intact.

2.1 Cryptocurrency transaction: An overview

The principle behind cryptocurrency transactions is based on blockchain technology. A blockchain is basically recording transactions and information on a digital ledger, called the blockchain ledger, in a secure way. Cryptocurrency transactions, through the digital ledger have to pass through the following important networks:

- *Distributed Ledger Technology (DLT)*: It is a technological infrastructure maintaining all digital transactions between entities on a blockchain ledger. The entire system works on a computer network spread over multiple locations or entities. This tantamount to 'no common administrator' or a 'centralized storage of data set'. Instead, cryptography (coding system involving rule-based mathematical functions) is used to secure the data.
- *Public and private keys*: All forms of crypto assets maintained in this ledger are just 'keys' called the public and private keys. They form the integral part of cryptocurrency transactions without the interference of a third party. A public key, like an email address, allows an individual or an entity to receive cryptocurrency when a transaction is made. A private key is like a password to 'unlock' the transaction and claim ownership to the cryptocurrency received. Therefore, every public key is paired to a private key, the latter being highly significant for a transaction to literally happen. For a transaction to be complete on a blockchain, it has to be 'digitally signed', or simply put, to have *double encryption*. Using the public key, a transaction is encrypted and signed using a private key by the sender of cryptocurrency. This transaction can be decrypted only by the accompanying private key of the receiver of cryptocurrency. If anything goes wrong anywhere, the transaction becomes invalid!! Thus, the two steps involved in a single cryptocurrency transaction are:



- *Virtual wallet*: The private keys are in the non-custodial wallet called the virtual wallet or the cryptocurrency wallet. These wallets are either a specialized hardware device or desktop software or a mobile. Cryptocurrency wallets are therefore built on asymmetric-key cryptography system.
- *Trading/ transacting with cryptocurrency*: The denomination of a cryptocurrency is known as a token or 'virtual token' or 'crypto token'. It can be traded in the cryptocurrency market or for investments. It should however be noted that *crypto tokens are assets with value*. While trading or transacting with tokens, it is the object's value that gets transferred during the trade or transaction.
- *Computer system*: In general, a computer acts as a node to the digital currency or cryptocurrency network.

Thus, the key takeaways from a cryptocurrency transaction are the requirements of a sound -

- *Digital literacy* - knowledge and skill of using technology, technology related gadgets (computer device or a Smartphone) and digital platforms that function on technology like mobile devices, internet platforms etc.
- *Financial literacy* – an intricate knowledge to avail the benefits and profits that may accrue by using cryptocurrency for transactions (and trading).

The Government of India (GoI) has initiated a plethora of schemes like the Stand-Up India Scheme, Atal Pension Yojana, Venture Capital Fund for Scheduled Castes under the Social Sector Initiatives, to name a few. The Reserve Bank of India (RBI) has also been complementing GoI's efforts by creating Financial Inclusion Plans (FIPs) to cover the unbanked population, to encourage the banked population using basic services to utilize the other financial services offered by the banking industry; and the use of Information and Communication Technology (ICT) to enhance our economy into a digital economy. However, greater participation by all economic agents alone can make financial inclusion possible in India. Of the many threatening issues in India poverty is the most prominent one. In January 2022, NITI Aayog's National Multidimensional Poverty Index (MPI) report had identified that 25.01% of the total population to be multidimensionally poor. In a country that is gripped with population as high as 25% who hardly have one square meal a day where having a decent standard of living is a far dream, initially increasing employment opportunities and later rigorous implementation of the schemes is critical to visualize a digital economy in the true sense.

2.2 Trends in Cryptocurrency Growth and Investments in India

The central bank of the country, the RBI and the GoI had been highly conservative to allow cryptocurrency into the Indian sub-continent. Until 2017, cryptocurrency was in a pre-mature stage. The following timeline shows the tumultous reactions on the advent and growth of cryptocurrency in India.

2013: Cryptocurrency was at a very nascent stage with few crypto exchanges

2014: 13 large and 20 small exchanges were opened in India. Many start-ups on crypto-tech market mushroomed.

2015: RBI quoted terror funding and money laundering as its principal concern to allow cryptocurrency transactions alongside necessary infrastructure lag to support cryptocurrency.

2017: First draft recommendation by GoI to curb cryptocurrency and growth of crypto market.

2018: RBI banned banks from supporting cryptocurrency transactions. Funding and foreign direct investments on crypto start-ups were pulled back. Nevertheless, first crypto ATM (Any Time Money) launched by Unocoin [a bitcoin (a form of crypto) trading platform].

2019: Draft Bill imposed hefty fines and penalties that included jail term for those indulging in cryptocurrency trade and/ or transactions. The Internet and Mobile Association of India (IMAI) opposed the Draft Bill by petitioning with the Supreme Court (SC).

2020: Landmark verdict by SC by allowing trading in virtual currency through Indian banks, including cryptocurrency. Irrespective of the verdict, RBI maintained silence making banks prohibiting crypto-based services. Later RBI was forced to give a statement that no law prohibited from cryptocurrency transactions when moved for Right to

Information Act by Unocoin co-founder. RBI initiated to model and float its own digital currency, thus trying to make cryptocurrency come under its regulation and supervision.

2021: Covid-19 pandemic driven series of lockdowns led to higher internet usage, especially the youngsters of India. Between 2020 and 2021, the Indian cryptocurrency market saw a 641% surge (year-on-year). The data of National Association of Software and Services Companies (NASSCOM) has shown that the crypto-tech market has grown by 34% between 2017 and 2021; predicted growth to USD241 million by 2030 (Figs. 1a & 1b). Youngsters of not only Tier I cities, but also youngsters from Tier II and Tier III cities were reported to perceive digital assets as the best asset class.

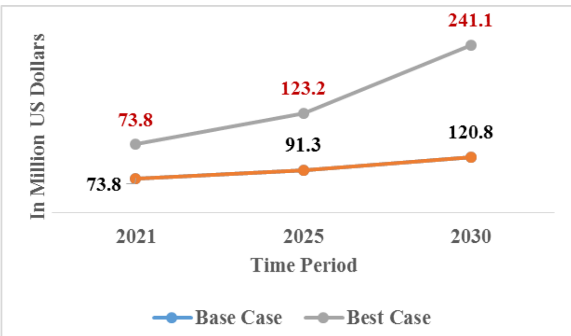


Figure 1a: Projected Crypto Market Size in India

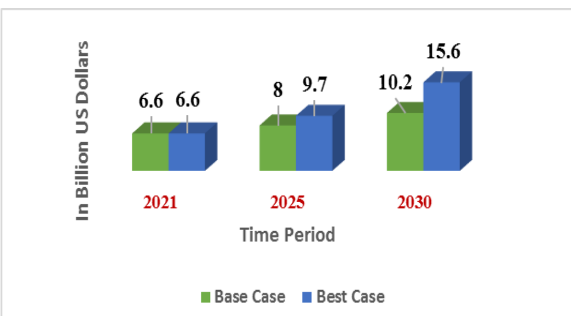


Figure 1b: Crypto Market Investments in India: Forecast
Source for figures 1a & 1b: NASSCOM; Note: Base Case - Growth and adoption of CryptoTech in India continue at the current rate based on specified factors. Best Case – Growth and adoption of CryptoTech in India accelerates rapidly with two-sided growth – higher demand-pull and investments in development and maturity of CryptoTech.

2022 and the Tax Law on Virtual Digital Assets (VDAs/ Cryptocurrencies): The Finance Minister, while presenting the Union Budget 2022-23, included cryptocurrency in the definition of VDA[1] and (i) imposed a flat 30% tax on income from VDAs; (ii) except the cost of acquisition, no other allowance in the tax permitted in terms of expenditure incurred; (iii) proposed a 1% tax deducted at source (TDS) above a monetary threshold on transferring VDAs.

While the above timeline shows the spurt in the cryptocurrency market in India to the extent of attracting tax on investments and transfers of cryptos, a peek into the related recent statistics given below (as of March 2022) portrays a picture of its growth trend and pattern.

- ✓ India is one of the hottest internet markets in the world. During the stated period, there were 750 million cryptocurrency users of which approximately a little more than 20 million were crypto investors.
- ✓ According to Kantar (an Indian data analytics firm), 83% urban Indians were aware of this virtual currency and around 16% were owners of cryptocurrency. Roughly 2 in 10 urban Indians are projected to be investing in cryptocurrency by 2022.
- ✓ For an average crypto investor, the financial portfolio constituted roughly 6.6 products whereas for a crypto owner, it was 5.5 products.
- ✓ More than 65% crypto users were relatively young, in the 21- 35 years age group.
- ✓ A phenomenal number of cryptocurrency users originated from smaller cities like Bareilly, Karnal and Guwahati though domination of the market was from the major cities.
- ✓ Women investors were far behind male investors in investing in crypto (Fig. 2) in the total

[1] Virtual Digital Asset (VDA): As defined by the Ministry of Finance, GoI in the Union Budget 2022-23 in its explanatory memorandum of the Finance Bill stated: "To define the term "virtual digital asset", a new clause (47A) is proposed to be inserted to section 2 of the Act. As per the proposed new clause, a virtual digital asset is proposed to mean any information or code or number or token (not being Indian currency or any foreign currency), generated through cryptographic means or otherwise, by whatever name called, providing a digital representation of value which is exchanged with or without consideration, with the promise or representation of having inherent value, or functions as a store of value or a unit of account and includes its use in any financial transaction or investment, but not limited to, investment schemes and can be transferred, stored or traded electronically. Non fungible token and; any other token of similar nature are included in the definition."

customer base of cryptocurrency as recorded in crypto exchange CoinDCX. There was a marginal year-on-year 5% rise in women investors between 2020 (15%) and 2021 (20%). However, a majority of women investors were from major cities.

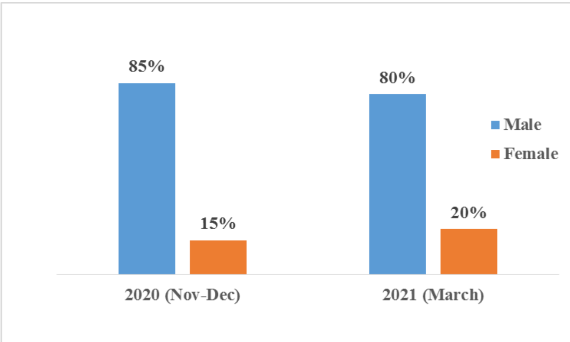


Figure 2: Gender-wise Cryptocurrency Investors in India: 2021

Source: https://www.statista.com

- ✓ 6% women who had an annual revenue/earning of more than ₹30 lakh invested in cryptocurrencies while this figure was only 4% to those who had an annual earning of less than ₹10 lakh.
- ✓ According to a study by the survey firm Grayscale, 76% female crypto investors in India had admitted of their lack of clarity in this type of asset class when compared to 52% of male crypto investors.

2. Expansion of financial inclusion in India - How far and how fast?

According to National Survey of India (as of March 2022)[2], the overall literacy rate in India stood approximately at 77.7% when compared to 74.04% in 2011 (Census 2011). Of this, the male literacy rate was 84.7% while the female literacy rate was 70.3%. Within the total literacy rate of 77.7%, male literacy rate was 87.7% in urban areas while the female literacy rate in rural areas stood at 73.5%.

However, literacy rate is different from financial literacy rate. The components of *financial literacy* as defined by Organization for Economic Co-operation & Development (OECD) and International Network on Financial Education (INFE) are as follows: 'Financial literacy encompasses aspects of knowledge, attitude and behaviour covering the range of context such as money management, planning for short and long term financial goals and awareness and choice of financial products'. Recent trends, reports and surveys have highlighted that financial literacy rate in India has been on the rise. Increased financial literacy in India was evident through increased dematerialization accounts (demat) in operation between FY2017 and FY2021 (Fig. 3). Demat accounts are the key to enter trading market in India, the first step to improve capital market, the backbone of financial system in any country. Though this sounds well at the onset, a cross-check with reality shows otherwise. As per the National Centre for Financial Education (NCFE)[3] Survey, 2019, the financial literacy rate in India was found to be 27.18% which rose by a slight margin to 27.6% (November 2020) according to the report of the Securities and Exchange Board of India (SEBI). The silver lining, however, is that, a majority share of this percentage is contributed by investors in the age group of 25 and 44 years of age (Fig. 4), constituting roughly about 21.8% of India's population.

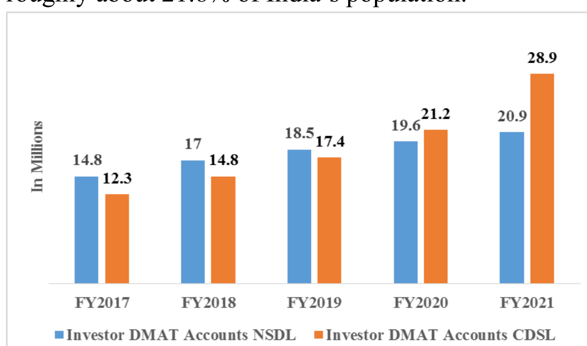


Figure 3: Increase in Investor Demat accounts (in millions) in India: 2017 – 2021

Note: NSDL = National Securities Depositories Ltd.; CDSL = Central Securities Depositories Ltd.

Source: www.ibef.org

[2] Due to the Covid-19 pandemic situation, the census survey and the decadal report (that began in 1881) got postponed. As of April 10, 2022, the Census 2021 has not been released by the Government of India. National Survey of India's report is therefore used for the data.

[3] As per the Reserve Bank of India Report dated 17th March, 2021, NCFE had carried out an All India Financial Inclusion and Financial Literacy Survey in 2019 with the help of an external surveying agency to find out the status of financial literacy in India. A sample of 75000 adults aged 18 to 79 were interviewed in 14 national/regional languages using a set of household questionnaire. A multi-stage sampling technique has been adopted for selection of districts, block/wards, villages, households, respondents during the Survey.

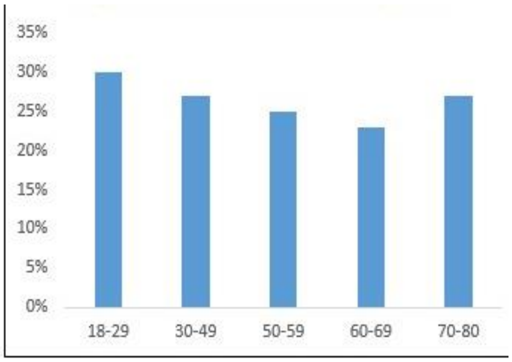


Figure 4: Age wise Financial Literacy: 2019

Source: National Centre for Financial Education report, 2015 & Financial Literacy and Inclusion in India Survey Report, 2019 retrieved from www.ibef.org

Statistics as shown through the graphical representations pave way to the question to be looked upon at a macro level: *Has financial literacy rate really increased in India?*

The next question that looms larger is the gender disparity that exists in financial literacy and, delving deeper, to financial inclusion. The World Bank (WB) defines *financial inclusion* as 'those individuals and businesses having access to useful and affordable financial products and services that meet their needs and delivered in a responsible and sustainable way'. The needs of financial products and services of individuals and businesses are for transactions, credit, insurance, payments, and savings purposes.

Many research works conducted by organizations and institutions like Standard & Poor, SEBI, RBI etc. have indicated that financial literacy among Indian women is comparatively lower than men. According to Government of India's fifth National Family and Health Survey (2021), women constitute slightly more than half of India's population – 1020 women to every 1000 men (national average). An exclusion of women from financial literacy automatically excludes them from financial inclusion, notwithstanding the urban-rural divide.

Mere provision of financial services does not mean acquaintance to or acquirement of financial literacy. Neither do they lead to financial inclusion. It must be backed by proper handling of financial instruments for finance-related activities. Government initiatives specifically focusing on the rural areas with the target on rural women, be it 'no frills account', introduced earlier, akin to the current Pradhan Mantri Jan Dhan Yojana (PMJDY) account or the concept of microfinancing oriented majorly towards self-help group (SHG) initiative which was much popular among the poor women and other similar schemes continue in helping women, especially in the rural areas, to make progress. Such schemes have created an avenue for them to hold bank account in their individual names. However, these schemes were and still not directed in helping them with learning and managing finance. Financial inclusion warrants stipulated schemes and push to enhance financial literacy to women in particular, with a special mention to rural women, whose labour force participation is higher than their urban counterparts. Demonetization in India (2016) did give a boost to digital (e-wallets and mobile payments) and online payments. But the push was not large enough to gain financial literacy that would lead to financial inclusion. This was evident when women felt the brunt during Covid-19 pandemic more than men.

Certain specific points that are pinnacle of National Statistical Office's All India Debt and Investment Survey's (AIDIS, 2019) observations are highlighted below to show the gender-gap and the urban-rural divide in accessing financial services. This also throws light on the *financial knowledge* (it involves understanding of key financial concepts like simple interest, compound interest that aids in calculating interest on loan taken, time value of money, risk-return, diversification, etc. to evaluate benefit in real life financial situations) level and *financial attitude* (aims at 'studying people's response towards savings, prioritization of short-term wants over long-term security, inclination towards risk, et al. for future well-being') in India.

- At all-India level, 9 in 10 households held a bank account.
- There was a 44% gap between men and women in holding a debit or a credit card in rural India. While 64% men owned one, it was only 20% among women (Fig. 5a). E-wallets, too, showed the disparity and divide (Fig 5b). This gap was roughly 17% in urban India.

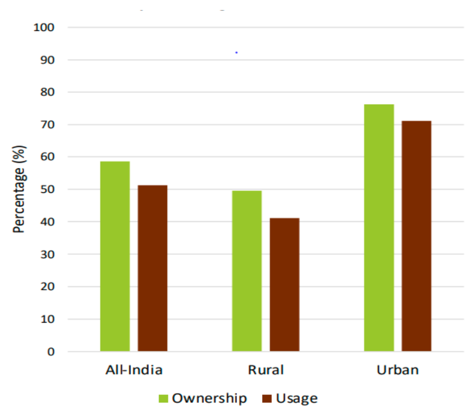


Figure 5a: Ownership and usage of debit/ credit cards in India: 2019

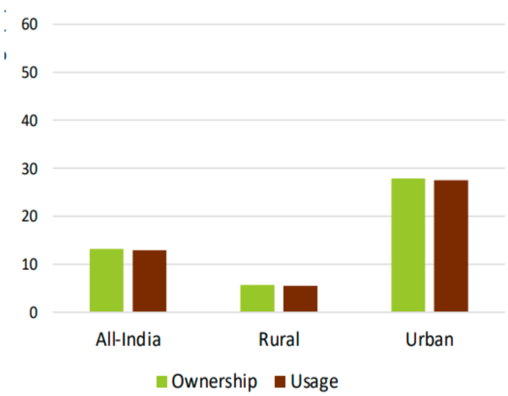


Figure 5b: Ownership and usage of e-wallets in India: 2019

- ➢ When it came to allocation in financial assets, a meagre 7% of urban-India and 5% of rural-India had diversified their portfolios, of which the traditional, safe and riskless assets were predominant (life insurance, bank deposits, and pension scheme). This is shown in Table 1 below.

Table 1: Pan-India: Investment in Financial Assets and Diversification of Portfolio

Allocation in financial assets	Rural India: Of the 5%	Urban India: Of the 7%
Cash	3%	2%
Deposits	26%	27%
Pension	37%	18%
Life Insurance	63%	51%
Risky assets	*0%*	*2%*

- ➢ Ownership of other financial products increased marginally only. Within this increase, naturally, rural-specific loan schemes showed a spurt among the various financial services (Fig. 6).

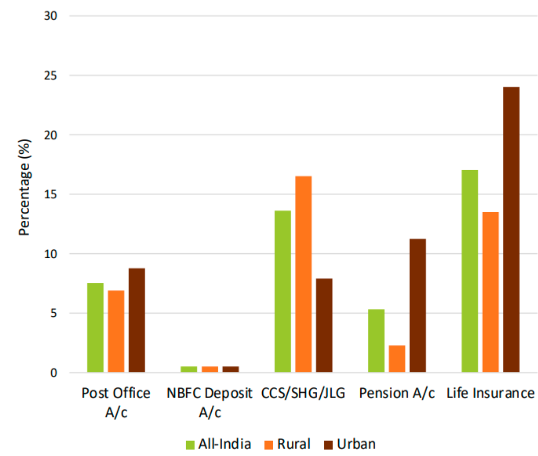


Figure 6: Pan-India: Share of households owning accounts across various instruments: 2019

Source for Figures 5a, 5b &6: https://www.dvara.com

- ➢ About 66% in rural and 87% in urban households predominantly relied on formal institutions like commercial banks for their loans/ credit while the balance in each depended on the non-institutional sources.
- ➢ Pan-India, usage of mobile internet by women was 50% less when compared to men.
- ➢ Pan-India, again, only 14% women owned a smartphone.
- ➢ The financial services providers perceived higher risk for lending to women than to men. This translated into 2.5 times higher loan rejection rate for women-owned businesses at pan-India level.

Given the above scenario, how near (or far) are the institutions in bridging the financial inclusion gap and how fast can bridging this gap happen?

3. The arguments for cryptocurrency in enhancing financial inclusion

The proponents and supporters of cryptocurrency opine that this class of digital asset can increase and expand financial inclusion and extend financial services who were hitherto had no/ little/ limited access to them. Some factors that back their arguments are:

(i) There is no barrier to investment or trading in cryptocurrency. The procedures and processes involved in the traditional regulatory system that is absent in the crypto system, at least now, comparatively lower cost of acquiring the financial service and nil hidden charges would be attractive to new investors in this market.

(ii) The publicly accessible cryptocurrencies are autonomous real-time settlement assets. It significantly reduces the cost of remittance.

(iii) Regulated financial institutions consider a host of factors while offering financial services falling under the broad categories of credit worthiness and credit score. The past history of loan availed and their repayment history, length of credit held, current debt, collateral (assets) for availing credit (as a safety net of default) etc. are some of the factors to exclude individuals from availing financial services from the existing banking and financial institutions. Crypto market, on the other hand, has no such denial factors and is all-inclusive, in the sense, it can be opted by anyone.

(iv) Technical knowledge of being a participant and stakeholder in cryptocurrency transaction is enough for availing financial services. All transactions are visible to all other stakeholders in the cryptocurrency network. The movement of cryptocurrency held by an individual is transparent.

3.1 Cryptocurrency and financial inclusion: How far and how fast will the twain meet?

Until recently, financial inclusion in India had largely been focusing on basically opening bank accounts – banking the unbanked population. The 'no frills' account[4] that was implemented in 2005 was to aid the low income households to open a bank account which can be operated with or without a minimum balance which was otherwise a requirement for maintaining a savings account. A debit card was also issued to accountholders to facilitate ATM withdrawals. This was overtaken by PMJDY in 2016 with certain curbs on withdrawals. Today access to financial services has widened to include physical and digital points of service, adults having a formal savings account at a formal financial institution, access to credit, insurance product, and pension policy, and percentage of Micro, Small and Medium Enterprises (MSMEs) and Single Master Form (SMF – linked to foreign investments) having access to credit.

[4] To remove the stigma on 'no frills account' by accountholders, the RBI, in 2012, replaced the title with Basic Savings Bank Deposit Account (BSBDA).

While these measures are targeted to broaden and widen the financial inclusion net by the RBI, there are some gaps and caveats for cryptocurrency to enhance financial inclusion. Some major points to ponder are:

(i) Digital literacy and digital infrastructure gap: In terms of world income group classification, the World Bank has placed India among the lower-middle income economy in its 2020-21 report. One of the features of lower-middle income economy is the high level of cash dependency by its people. Figure 7a shows the value of currency in circulation that has surged in India after the demonetisation in 2016, covid-19 pandemic years 2020 and in the post pandemic economic growth recovery period 2021.

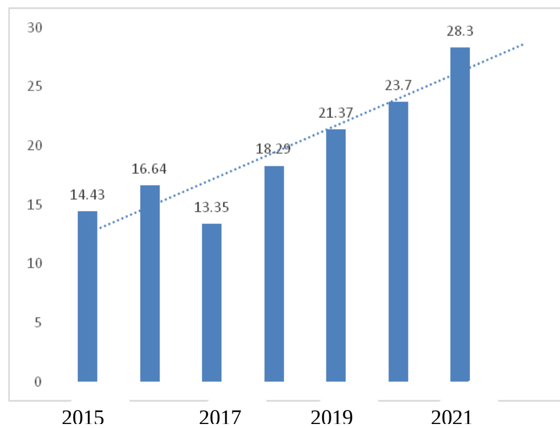


Figure 7a: Value of currency in circulation in India: 2015 – 2021

Cash still appears to remain the king, especially in rural India despite an increase in digital payments (Fig. 7b).

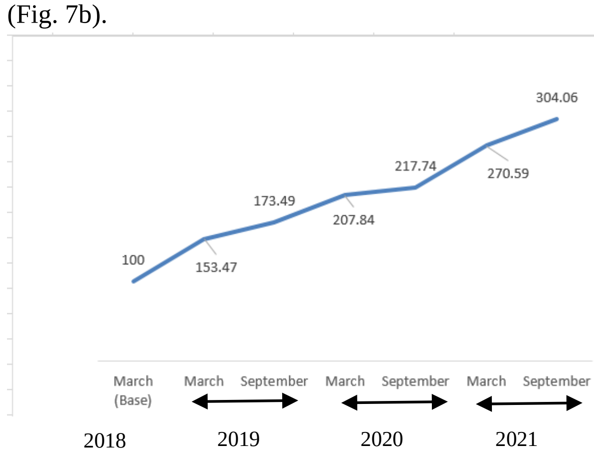


Figure 7b: RBI's Digital Payment Index

Source: https://www.statista.com

On comparing both, however, a Credit Suisse report (2020) has stated that 72% of consumers in India prefer cash-driven transactions. This leads to a very pertinent question: *How far and how fast can a high cash dependent economy shift to 'virtual wallet' based cryptocurrency, for its day-to-day transactions*?

(ii) *Crypto investments are not Casino*: Cryptocurrencies have the advantage of reducing remittance costs in transaction. The disadvantage, however, is in its acceptance as a medium of payment by individuals or business entities. Else, they may have to be exchanged for cash, which is possible either through cryptocurrency experts called innovators[5] (involving digital foreign exchange and payment platform) or through an authorized and recognized Crypto Exchange. Here, the holder of the cryptocurrency has to sell it to someone through an intermediary. The intermediary deposits the cash in the bank account. Either way, the cryptocurrency possessor must be well versed with the nuances embedded in both forms of encashment. Apart from this, transactions through virtual currencies are irreversible. The reverse time for a cryptocurrency transaction is roughly about 10 minutes, until the transaction gets executed. Any accidental mistake or error made during crypto transaction can neither be reversed nor can the investor approach his bank for cash reversal. The crypto investor would then be left at the mercy of the cash recipient for transaction reversal.

The question that needs attention here is *how fast the cryptocurrency investments can grow in India if possessing intricate technical knowledge of handling them becomes the necessary and vital condition?*

(iii) *Cryptocurrency market growth*: A close to a fourth of total population at the start of 2022 comprised the India's middle-income group. It is also this group that contributes to the major portion of household sector saving. Covid-19 pandemic had pushed many middle-class families near poverty. Post pandemic, though the middle-income group has revived, it has made them more conservative in their savings habit and pattern. As per 2022 reports, the investment sentiments of this section of the population lean towards safer havens, namely, gold (Gold and Gold Markets, 2022) and secured government products. Lack of knowledge among many to consider cryptocurrencies as a lucrative investment asset class, hesitation to invest in crypto even if they possess knowledge, absence of a regulatory authority, punitive taxes and non-receptive approach of the government towards cryptocurrencies and crypto market are some of the challenges for this asset class to grow and thrive quickly in the Indian market. The news on scams and ransomware in cryptocurrency transactions and dealings is yet another factor that pushes even the otherwise risk-loving investors to become sceptical and risk-averse in the crypto market.

The question that arises here is: As per December 2021 data, households in India invest roughly 7% of financial assets in equities, lagging behind emerging countries where it is 30%. While Indians are yet to gain a grip on the stock market wherein risk-returns knowledge and analysis are explicit, *cryptocurrencies can neither be treated completely as a commodity nor completely as a currency. How far and how fast can the cryptocurrency market growth be predicted to be northwards in the near future in India that would support financial inclusion?*

(iv) *Consumer data privacy*: Once stored in the virtual wallet, every movement of the crypto (or in general, virtual) currency is traceable in the market. Simply put, how much money an individual/ investor holds in the virtual wallet is open to all in the network. This leads to breach of data privacy.

At a time when data privacy is considered important by every country for various reasons, most importantly considering national security, *data security of the stakeholders in a network itself becomes a big concern as every movement of the crypto is transparent to every other member*.

(v) *Highly volatile asset class*: Investments in cryptocurrencies are based on 'group thinking'. The prime vouch for this currency across the globe was that it would act as an hedge against inflation. Reasoning was that commodities churned out as

[5] Cryptocurrency innovators are strategists who analyze the needs of the crypto customers and businesses and deliver cryptocurrency facilities.

cryptocurrencies are scarce in nature and would automatically put a ceiling for its supply. Also was the notion that by physically placing a cap on its supply would 'safeguard its value'. This meant that investors could protect their wealth by hedging cryptocurrencies against inflation. On the contrary, India has been experiencing high inflationary situation since October 2020 (as of June 2022). Contrary to expectations, the value of Bitcoin, the largest cryptocurrency fell by 50% between June 2021 and June 2022; Ether's value fell by 15% during the same period. The fall in the value of cryptocurrencies like the Bitcoin and Ether was due to the fear grappled by investors who felt this asset as the most risky one, given the background that interest rates were surging. This marred the investor confidence because they did not want to bet on this perceived risk asset.

While hedging of cryptocurrency against inflation has proved to be a myth in the short-term, the long-term hedging effect of cryptos is yet to be proved.

CONCLUSION

Besides facing the above questions, the Finance Minister of India had, in mid-July 2022, hinted upon Reserve Bank of India's view on prohibiting cryptocurrencies or regulating them through the 'Automatic Exchange of Information' framework through international collaboration. It was reiterated that cryptocurrencies would have a destabilizing effect on monetary and fiscal policies to regulate money supply in the economy. Nevertheless, crypto transactions are cross-boundary in nature. Even if curtailed domestically, investors and consumers can choose crypto transactions outside India. However, taxes and regulations imposed by the Indian government on cross-border transactions could have a crippling effect on the crypto growth and market.

Now, this leads to the critical question: *How far and how fast* will *cryptocurrency make its survival possible in India?*

REFERENCE

[1] Agrawal, Niyati. Ponnathpur, Rakshith. Seetharaman, Sahana and Sharma, Misha (2022, February 1), Insights from the All-India Debt and Investment Survey 2019, *DVARA Research*, https://www.dvara.com/research/wp-content/uploads/2022/02/AIDIS-Slide-Deck.pdf

[2] Crypto and Indian Women – A Journey Towards Financial Inclusion (2022, March 7), *BQ Prime Brand Studio*. https://www.bqprime.com/bq-brand-studio/crypto-and-indian-womena-journey-towards-financial-inclusion

[3] In Charts; Growth of the crypto-tech market in India (2021, September 27). https://www.moneycontrol.com/news/business/companies/in-charts-growth-of-the-crypto-tech-market-in-india-7513551.html

[4] India's growing financial literacy (2022, January 27), *India Brand Equity Foundation*, https://www.ibef.org/blogs/india-s-growing-financial-literacy

[5] Kaul, Abhinav (2021, March 8), Number of new women investors in India crypto market spikes 1,400% in a year. *Livemint*. https://www.livemint.com/market/cryptocurrency/number-of-new-women-investors-in-india-crypto-market-spikes-to-1-400-in-a-year-11615198334723.html

[6] Magdas, Adriana (2014, March 17), Cryptocurrencies and Financial Inclusion – Why I Am A Skeptic. For Now, at Least. *Centre for Financial Inclusion*. https://www.centerforfinancialinclusion.org/cryptocurrencies-and-financial-inclusion-why-i-am-a-skeptic-for-now-at-least

[7] Mundhra, Laxitha (2021, September 29), 2 In 10 Urban Indians Likely to Be Crypto Investors by Q1 2022: Report, *Inc42*. https://inc42.com/buzz/2-in-10-urban-indians-likely-to-be-crypto-investors-by-q1-2022-report/

[8] Nigam, Amit (2020, August 5), The rural-urban divide: Why cash is still the king in India's rural regions. *The Times of India*. https://timesofindia.indiatimes.com/blogs/voices/the-rural-urban-divide-why-cash-is-still-the-king-in-indias-rural-regions/

[9] OECD (2020), *OECD/INFE 2020 International Survey of Adult Financial Literacy*, https://www.oecd.org/financial/education/launchoftheoecdinfeglobalfinancialliteracysurveyreport.htm

[10] Ossinger, Joanna (2021, October 6), India's cryptocurrency market grew 641% over past year, says report. *Business Standard.* https://www.business-

standard.com/article/markets/india-s-cryptocurrency-market-grew-641-over-past-year-says-report-121100500104_1.html

[11] PTI (2022, April 11). Middle income purchases more gold in India: Report. *The Times of India.* https://timesofindia.indiatimes.com/ business/india-business/middle-income-group-purchases-more-gold-in-india-report/ article show /90785919.cms

[12] Sansad TV: Perspective – Multidimensional Poverty, https://www.insightsonindia.com/ 2022 /01/11/sansad-tv-perspective-multidimensional-poverty/