

The Bitcoins: A Scam or the Currency of the Future

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Abstract: A private initiative that has created a virtual currency and a payment system based on cryptography and decentralized management, Bitcoin is considered not only an interesting, but also a disruptive technical innovation by many observers. This online payment system is not controlled by government and any institutions. It sends values directly from one party to another. This paper focuses on the technology used in Bitcoin & its applications. BitCoin is an innovative technology that offers several benefits, such as fast transaction speeds, low costs, and the elimination of the need for a third-party intermediary to process transactions. "Here the author highlights the opinion of the government of India towards Bitcoin technology and also describes how Bitcoin technology works. This paper also provides the impact of legalization of Bitcoins in India.

Keywords: Bitcoin, Cryptocurrency, Technology, Virtual, Online Payment System

1. Introductory Remarks

"Satoshi Nakamoto created the virtual currency called *BitCoin* in early 2009.¹ BitCoin is digital money that is not backed by the government,² and is treated as currency and used to purchase goods and services. It is a collection of computer code that is stored either digitally or, in rare cases, in printed form. Many benefits of BitCoin explain its growing popularity. First, BitCoin allows individuals to anonymously purchase goods and services online. Moreover, BitCoins centralized public ledger that records all BitCoin transactions reduces redundancies and inefficiencies."

"However, as BitCoin has grown in popularity, so too has its use in nefarious activities. The private nature of BitCoin provides an avenue for criminals to perpetrate white-collar crimes like tax evasion and money laundering. In this world of dynamic economies, technology being the major influencer, mankind should be prepared for the unexpected. When our payments and shopping turned digital and even before the financial industry started grading it as the biggest game changer, there was news about currency turning digital. This only goes to prove that technology developments and innovation will be a constant source of evolution and the world should always be prepared with an open mind to change."³

"A *Crypto-currency* is a digital asset designed to work as a medium of exchange using cryptography to secure the transactions, to control the creation of additional units, and to verify the transfer of assets. Cryptocurrencies are classified

as a subset of digital currencies and are also classified as a subset of alternative currencies and virtual currencies."

"Bitcoin was the first decentralized crypto-currency to be introduced in the world of finance, decentralized meaning that there exists no third party and the exchange happens between the users. The crypto-currency is still a novel concept and the world is divided on whether it is a boon or bane of technology."

1.1 What are Crypto-currencies?

"Crypto-currencies are just lines of computer code that hold monetary value. Those lines of code are created by electricity and high-performance computers. Crypto-currency is also known as digital currency. Either way, it is a form of digital public money that is created by painstaking mathematical computations and policed by millions of computer users called *miners*. Physically, there is nothing to hold although you can exchange crypto for cash."

"*Crypto* comes from the word cryptography, the security process used to protect transactions that send the lines of code out for purchases. Cryptography also controls the creation of new *coins*, the term used to describe specific amounts of code. There are literally hundreds of coins now; only a handful has the potential to become a viable investment."

"Governments have no control over the creation of crypto-currencies, which is what initially made them so popular. Most crypto-currencies begin with a market cap in mind, which means that their production will decrease over time thus, ideally, making any particular coin more valuable in the future."

1.2 What are Bitcoins?

"BitCoin technology functions in the following manner. BitCoin itself is a *chain of digital signatures* that defines who holds (i.e., owns) the coin.⁴ Each individual in the

¹Benjamin Wallace, *The Rise and Fall of Bitcoin*, Wired (Nov. 23, 2011, 2:52 PM), https://www.wired.com/2011/11/mf_bitcoin/ [<https://perma.cc/N8EU-362P>] ("Nakamoto himself mined the first 50 bitcoins—which came to be called the genesis block—on April 1, 2018.")

²Edward V. Murphy et al., Cong. Research Serv., R43339, Bitcoin: Questions, Answers, and Analysis of Legal Issues 1 (2015)."

³"See *What Can You Buy with Bitcoin?*, CoinDesk (April 1, 2018), <http://www.coindesk.com/information/what-can-you-buy-with-bitcoins/> [<https://perma.cc/HA9G-ZAXT>]."

⁴ *Id.* In other words, a BitCoin is really just a long string of computer code that defines who currently holds the coin and all those who previously held the coin. See *id.* at 2.

network has a unique wallet, similar to an account, which holds coins. Wallets may be stored locally on an individual's own computer or on third-party servers.⁵ Server storage makes the user's wallet accessible anywhere via the Internet. Users download software onto their computers or smartphones to send BitCoins.⁶

"Each individual in the network has both a public and a private key. The public key acts as a public address for assigning and holding coins, while the private key functions like a password, allowing users access and control only to coins that he or she holds. In order to pass the Bitcoin to a new holder, the current holder adds code to the coin, which memorializes the transaction and assigns the coin to the next holder's public key."

1.3 Basic Questions Regarding Bitcoins

1) How does the Bitcoin system works?

"Bitcoin is considered to be the world's first successful decentralized digital currency for settling international transactions. It rose to fame as a potential and lucrative alternative to existing conventional currencies. Bitcoins are mathematically generated by executing a set of difficult number-crunching tasks using a procedure known as *mining*. According to its creator (known by the pseudonym Satoshi Nakamoto), the mathematics of the Bitcoin system were set up in a complex way, making Bitcoin mining progressively difficult over time. Currently, there are close to 12 million bitcoins in existence, amounting to around \$6 billion at the current exchange rate."

"Bitcoin differs from its conventional peers in two key respects – it is not managed by a single corporation or regulatory body, and does not transact in traditional currencies such as the US dollar or euro. Also, the Bitcoin network does not need to partner with any financial institution or comply with any kind of complex rules for providing bitcoin-based financial services. The easiest way to store Bitcoins is to sign up on an online wallet service, which could facilitate the transactions. All transactions are secured using public-key encryption and each user in the network has the record of the complete history of all transactions in the form of a log. When a user initiates a transfer of Bitcoins using his private key, the particulars of the transfer is updated in the log. The *miners* in the bitcoin network process the log and confirm the transactions as legitimate. Upon confirmation, these transactions are broadcast so that every node in the network updates the set of confirmed transactions in their databases, which in turn becomes part of an irreversible record of historical transactions, commonly known as the Blockchain."

Blockchain is defined as "*an incorruptible digital ledger of economic transactions that can be programmed to record not just financial transactions but virtually everything of value.*"

"Information stored on Blockchain exists as a shared database. Other notable features include – encrypted network, incorruptible data, better transparency, and easy accessibility. Blockchain security uses encryption technology

through public and private keys. The public key acts as the users address on Blockchain, while the private key acts as a PIN or password, which permits only the owner to access their Bitcoin or other digital assets.⁷"

2) "How Are Bitcoins Obtained?"

There are three ways in which individuals can acquire BitCoins –:

- "First, users can exchange physical currency for BitCoins on Bitcoin exchanges. These exchanges function similarly to traditional currency exchanges and allow individuals to exchange traditional currency for the equivalent value in Bitcoin.⁸ The exchange rate is determined solely by the market's value scale of Bitcoin on any given day because there is no commodity backing Bitcoin. To acquire BitCoins through an exchange, users must visit an exchange, create an account, connect a bank account or credit card to the account, exchange currency for a corresponding number of BitCoins, and then stores the BitCoins in their wallets.⁹"
- "Second, individuals can acquire BitCoins by trading a good or service for compensation in Bitcoin. In this scenario, buyers merely append the seller's public key to a Bitcoin the buyer holds.¹⁰ Once the seller has the coin in his or her wallet, payment is complete."
- "Third, users can acquire new BitCoins by using their computer to verify Bitcoin transactions. This method of acquiring BitCoins is known as mining. Through this process, a Bitcoin user is compensated with twenty-five BitCoins when he or she uses a computer, either with or without optimized computer hardware designed for mining, to solve a complex mathematical problem that verifies a Bitcoin transaction. After a transaction has been verified, it is recorded on the Bitcoin network." These computations ensure that the entire chain of transactions is accurate and absent of any fraudulent activity. "Mining for new BitCoins becomes progressively more resource and time intensive, because the computations become increasingly difficult."¹¹

3) Are Bitcoin Transactions Anonymous?

"Bitcoin transactions are not truly anonymous.¹² An example of an anonymous transaction is an exchange for cash between two strangers. In this case, no personal information need be revealed nor does there need to be a record of the transaction. At the other extreme a non-anonymous transaction is a typical online purchase using a credit card. This transaction requires validation by a third-party intermediary to whom the buyers and sellers identities and pertinent financial information is known and who maintains

⁷ Alan Lloyd Paris & Srinivasa Manikant Upadhyayula, *Bitcoin: Currency of the future or money laundering vehicle?* June 2017, pg 5

⁸ See *id.*

⁹ *Id.*

¹⁰ See Greebel & Moriarty, *supra* note 20

¹¹ "See Nakamoto, *supra* note 13, at 2–3"

¹² "Oshua Brustein, *Bitcoin May Not Be Anonymous After All*, Bloomberg Business Week, April 1st, 2018, available at <http://www.businessweek.com/articles/2013-08-27/bitcoin-may-not-be-so-anonymous-after-all>"

⁵ Wallace, *supra* note 1.

⁶ Greebel & Moriarty, *supra* note 20

a record of the transaction. A Bitcoin transaction falls between these two extremes.”

“With a Bitcoin transaction there is no third-party intermediary. The buyer and seller interact directly (peer to peer), but their identities are encrypted and no personal information is transferred from one to the other. However, unlike a fully anonymous transaction, there is a transaction record. A full transaction record of every Bitcoin and every Bitcoin user’s encrypted identity is maintained on the public ledger. For this reason Bitcoin transactions are thought to be pseudonymous, not anonymous.”

“Because of the public ledger, researchers have found that, using sophisticated computer analysis, transactions involving large quantities of Bitcoin can be tracked and claim that if paired with current law enforcement tools it would be possible to gain a lot of information on the persons moving the Bitcoins.¹³ Also, if Bitcoin exchanges (where large transactions are most likely to occur) are to be fully compliant with the bank secrecy regulations (i.e., anti-money laundering laws) required of other financial intermediaries, Bitcoin exchanges will be required to collect personal data on their customers, limiting further the system’s ability to maintain the users pseudonymity.”

4) What Is the Scale of Bitcoin Use?

“Despite significant growth since its inception, Bitcoins scale of use remains that of a *niche* currency. As of mid-January 2015, the total number of Bitcoins in circulation globally was about 13.7 million, up about 1 million coins from a year earlier. With its recent market price of near\$200, Bitcoins current market capitalization (price × number of coins in circulation) is about \$2.7 billion. However, large swings in the price of Bitcoin have caused that market capitalization to exhibit similarly large changes during the year. As recently as December 2013, with Bitcoin exchanging at near \$1,100, the market capitalization was above \$140 billion. Although numerous vendors accept Bitcoin, the volume of transactions remains modest.¹⁴

During 2014, the value of Bitcoins global daily transaction volume fluctuated in a range of between \$40 million and \$60 million, representing between 50,000 and 90,000 daily transactions.¹⁵,”

“The objective of the research is to understand the awareness of the existence of bitcoins as virtual currency¹⁶. It is found that only **63.9%** of the respondents are aware of its existence. The primary sources of information are newspapers, journals, friends and family etc.”While “determining the perception of these people regarding bitcoin it was observed that a majority of them consider it to

¹³“Sarah Meiklejohn et al., *A Fist Full of Bitcoins: Characterizing Payments Among Men with No Name*, University of California, San Diego, April 1, 2018, available at <http://cseweb.ucsd.edu/~smeiklejohn/>.”

¹⁴“<https://www.buybitcoinworldwide.com>, accessed April 1, 2018”

¹⁵“Bitcoin data from Bitcoin Charts available at <http://bitcoincharts.com/>”

¹⁶“Rajshri Suresh, Rahul Batra & Seema Ghosh, *Bitcoin – The Currency of the Future?*, pg 15, *IOSR Journal of Business and Management (IOSR-JBM)*e-ISSN: 2278-487X, p-ISSN: 2319-7668”

be user-friendly, safe, reliable and also a strong future investment.¹⁷ However, when asked about their opinion on legalizing bitcoins in India, an equal percentage of people (**39.2%**) voted for ‘Yes’ and ‘Maybe’. This indicates that although people think bitcoins are advantageous in a few ways, they are not too sure about the implications of it being a legal currency. Thus, it is necessary for the Government to provide certain guidelines about the operations of Bitcoins and their legality.¹⁸,”

1.4 Arguments for and against Wider Use of Bitcoin

1) “Why Would One Want to Use Bitcoins?”

“Bitcoin purportedly offers three potential benefits to users:

- Lower Transaction costs,
- Increased privacy, and
- No erosion of purchasing power due to inflation.”

a) Lower Transaction Costs for Electronic Economic Exchanges

“Because there is no third-party intermediary, Bitcoin transactions are purported to be substantially less expensive for users than those using traditional payments systems such as Paypal and credit cards, which charge merchants significant fees for their role as a trusted third-party intermediary to validate electronic transactions. In addition, Bitcoin sales are *nonreversible*, which removes the possibility for misuse of consumer charge-backs, which merchants find costly. Merchants would presumably pass at least some of these savings on to the customer. There is considerable anecdotal evidence to support this assumption, but no comprehensive data exist on the size of Bitcoins transaction cost advantage.¹⁹,”

b) Increased Privacy

“Those who seek a heightened degree of privacy may find more comfort using Bitcoins for their (legal) commercial and financial transactions. The risk of identity theft may also be less, and some may find the removal of government from a monetary system attractive. However, as discussed above, Bitcoin transactions do not have the anonymity afforded by cash transactions, as there is a permanent and complete historical record of Bitcoin amounts and encrypted identities for all transactions on the Bitcoin system that are potentially traceable.²⁰,”

¹⁷“Ittay Eyal, Adem Efe Gencer, Emin Gun Sirer and Robbert van Renesse (2016), titled *Bitcoin-NG: A Scalable Blockchain Protocol* in 13th USENIX Symposium on Networked Systems Design and Implementation.”

¹⁸“Gregory Maxwell (2015), Confidential Transactions in Bringing New Elements to Bitcoin with Sidechains.”

¹⁹ See Data on transaction times at Blockchain, available at <http://blockchain.info/charts/avg-confirmation-time>

²⁰ Fractional reserves can occur when intermediaries issue obligations and rely on the unlikelihood of simultaneous redemption in order to fund additional activity. Put more simply, the firm keeps only a fraction of its assets in reserve to honor all of its other obligations, and uses the rest to pursue more earnings. In the case of Bitcoin, bank deposits and similar, fractional reserve policies by intermediaries can increase the effective supply of money-like instruments, and (continued...)

c) No Erosion of Purchasing Power by Inflation

“Inflation is defined as a broad increase in the prices of goods and services. This is equivalent to saying that there is a fall in the value of the circulating currency. That fall in value means that each unit of the currency is exchangeable for a reduced amount of goods and services. Inflation is commonly thought to be a monetary phenomenon in which the supply of the currency outpaces the demand for the currency causing its unit value (in terms of what it can buy) to fall.”

“Most often governments (or their central bank) regulate the supply of money and credit and most often some degree of mismanagement of this government function is at the root of a persistent high inflation problem. In the case of Bitcoin, however, there is no government or central bank regulating the supply of Bitcoins. The supply of Bitcoins is programmed to grow at a steady rate regulated by the degree of mining activity (a process likely linked to a growing demand for Bitcoin) and then is capped at a fixed amount.”

“Inflation could occur if the demand for Bitcoin decreases relative to the fixed supply. Inflation could also occur if the Bitcoin network develops fractional reserve banking (i.e., banks that hold only a fraction of their deposits in reserve and lend out the rest), which would also be a vehicle that effectively increases the supply of circulating Bitcoins.²¹ If these digital banks move to a situation where held reserves stabilize, this source of inflation would diminish.”

2) “What Factors Might Deter Widespread Bitcoin Use?”

There are a number of factors that could discourage widespread use of Bitcoin –

a) Not Legal Tender

“The dollar is legal tender and by law can be used to extinguish public or private debts. A creditor is required to accept legal tender for the settlement of a debt.” At a minimum, the payment of taxes forces U.S. individuals to hold dollars. “Arguably, for many, such a government endorsement is comforting and creates a strong underlying demand for the dollar. By contrast, a currency like Bitcoin that is linked to a complex computer program that many do not understand and that operates without accountability to any controlling entity could be an unattractive vehicle for holding wealth for many people.”

b) Does Not Enjoy the Dollar’s Network Externalities

“As noted above, the attractiveness of using a dollar is dependent on the number of people already using it. Thus widespread use of the dollar encourages its continued use and is an impediment (although not an insurmountable barrier) to the use of other currencies, including Bitcoins.”

²¹ Fractional reserves can occur when intermediaries issue obligations and rely on the unlikelihood of simultaneous redemption in order to fund additional activity. Put more simply, the firm keeps only a fraction of its assets in reserve to honor all of its other obligations, and uses the rest to pursue more earnings. In the case of Bitcoin, bank deposits and similar, fractional reserve policies by intermediaries can increase the effective supply of money-like instruments, and (continued...)

3) “Price Volatility Discourages Its Use as Medium of Exchange”

Bitcoin’s price has been volatile since its creation in 2009, subject to sharp appreciations and precipitous depreciations in value. During March 2013 and April 2013, Bitcoin’s dollar exchange rate rose from about \$50 to \$350 and then fell back to near \$70. Bitcoin’s price moved up even more sharply during the fall of 2013, rising from near \$50 in September to more than \$1,100 by early December. During 2014, Bitcoin’s price showed large day-to-day variations but generally trended down. By mid-January 2015, a Bitcoin was priced near \$200. “This is a price pattern more typical of a commodity than of a currency to be used as a medium of exchange or a store of value. The volatile price behavior suggests the market for Bitcoin is currently being driven by speculative investors, not by a growing demand for Bitcoin due to increased transactions by traditional merchants and consumers.”

“One problem with having the Bitcoin network dominated by speculators is that it gives users an incentive to hoard Bitcoins rather than spend them—just the opposite of what would need to happen to make a currency a successful medium of exchange such as the dollar.²²”

4) The System’s Long-Term Deflationary Bias Will Discourage Its Use as Currency

“Because the supply is capped in the long run, widespread use of Bitcoin would mean that the demand for Bitcoin would likely outstrip supply, causing Bitcoin’s price to steadily increase. The corollary of that increase is that the Bitcoin price of goods and services would steadily fall causing deflation. Faced with deflation, there is a strong incentive to hoard Bitcoins and not spend them, causing the current level of transactions to fall.²³”

“If generalized to an economy-wide phenomenon deflation could cause slower than normal economic growth and higher than normal unemployment.”

5) Bitcoin’s Network Security is Uncertain

Some notable examples of security breaches on the Bitcoin network have included the following: -

- “In January 2015, Bitstamp, a large European Bitcoin exchange, suspended services after a security breach involving the loss of 19,000 Bitcoin, valued at about \$5 million.²⁴”
- Hackers mounted a massive series of distributed denial-of-service attacks against the most popular Bitcoin exchange, Mt. Gox, in 2013. About 850,000 Bitcoin valued at over

²²“Felix Salmon, *The Bitcoin Bubble and the Future of Currency*, Medium, April 1 2018, available at <https://medium.com/money-banking/2b5ef79482cb>”

²³“Dan Kervick, *Bitcoin’s Deflationary Weirdness*, *New Economic Perspectives*, April 2013, available at <http://neweconomicperspectives.org/2013/04/talking-bitcoin.html>”

²⁴“Mariella Moon, *Bitcoin Exchange Loses \$5 Million in Security Breach*, *Engadget*, available at <http://www.engadget.com/2015/01/06/bitstamp-bitcoin-exchange-hack/>.”

\$400 million were stolen. Mt. Gox subsequently declared bankruptcy.

- In late August 2012, an operation titled Bitcoin Savings and Trust was shut down by the owner, allegedly leaving around \$5.6 million in bitcoin-based debts.
- In September 2012, Bitfloor, a Bitcoin exchange, reported being hacked, with 24,000 Bitcoins (roughly equivalent to \$250,000) stolen. As a result, Bitfloor temporarily suspended operations.
- On April 3, 2013, Instawallet, a web-based wallet provider, was hacked, resulting in the theft of over 35,000 Bitcoins. With a price of \$129.90 per Bitcoin at the time, or nearly \$4.6 million in total, Instawallet suspended operations.²⁵

“Bitcoin in India”

“Bitcoin demand is growing day by day in India. People in India are now understanding the power and advantages that these virtual currencies can offer. If we consider Bitcoin in India then all the rules and regulations which are presently applicable to Indian currency will become applicable to Bitcoin also. This rules and regulations for Indian currencies are controlled by RBI.”

“The Principal Laws Concerning Indian Currency”

“As per Indian constitution, article 246 gives the list of all activities that are legislate by central and state government. Entry 36 and 46 of List I of the Seventh Schedule of the Constitution states that the Central Government can legislate in respect of currency, coinage, legal tender, foreign exchange and bills of exchange, cheques, promissory notes and other like instruments respectively. If Bitcoin falls any of this category the central government would have exclusive power to legislate.”

“The principal laws concerning Indian currency are:”

- 1) “The Constitution of India, 1950;”
- 2) “The Foreign Exchange Management Act, 1999” (“FEMA”);
- 3) “The Reserve Bank of India Act, 1934” (“RBI Act”);
- 4) “The Coinage Act, 1906” (“Coinage Act”);
- 5) “The Securities Contracts (Regulation) Act, 1956” (“SCRA”);
- 6) “The Sale of Goods Act, 1930” (“Sale of Goods Act”);
- 7) “The Payment and Settlement Systems Act, 2007” (“Payment Act”).
- 8) “Indian Contract Act, 1872” (“Contract Act”)

“These laws will become applicable to Bitcoin if RBI wants to treat it as a currency. As Bitcoin is decentralized digital currency, the creation, trading or usage of Bitcoin as a medium for payment is not controlled by RBI or any other trusted authority unlike fiat currency.”

- Therefore, using Bitcoin as a payment system may create following issues –

- 1) “Bitcoins are stored in digital wallets. Thus they are liable to suffer from hacking, loss of password, malware attack etc. and as they are not created or traded through any authorized central agency, the loss of e-wallet could result in the permanent loss of Bitcoins held in them.”
- 2) “As Bitcoin transactions are peer-to-peer without central authority which monitors the payment, there is no system for customer problems/disputes/charge back etc.
- 3) No one is responsible for malfunctioning.
- 4) Being an anonymous currency system, it leads to unintentional breaches of money laundering and combating the financing of terrorism laws.²⁶”

6) Legal Aspects of Bitcoin

a) “KYC Norms”

“In India, KYC (Know Your Customer) norms are set by RBI that requires banks to monitor their customer’s transactions, keep up-to-date record of their identity. This is not in the case with Bitcoins as its transactions are anonymous in nature. Thus, bringing Bitcoin under the current Indian laws can be difficult.”

b) “Cross border transfer of Bitcoin”

“FEMA regulates all inbound and outbound foreign exchange related transactions.” Section 3 of FEMA states that no person shall: “*deal in or transfer any foreign exchange or foreign security to any person not being an authorized person;*

- Make any payment to or for the credit of any person resident outside India in any manner;
- Receive otherwise through an authorized person, any payment by order or on behalf of any person resident outside India in any manner; and
- Enter into any financial transaction in India as consideration for or in association with acquisition or creation or transfer of a right to acquire, any asset outside India by any person.”

“From the above, it could be argued that purchasing of Bitcoin by a resident Indian from a person resident outside India (where money for purchase of Bitcoin is transmitted through legitimate banking channels) will not be in violation of FEMA. Further, Bitcoin transaction between two residents should also not trigger FEMA and should not therefore be in violation of the same. However, the sale of Bitcoin to a non-resident person (i.e. to a person outside India) by a resident Indian will be in violation of the provisions of FEMA. Further, it can also be regulated by RBI in this condition.²⁷”

c) Taxation

“In India the taxation is most complicated thing for common peoples. Tax may be applicable to income or expenditure. If we apply tax to Bitcoin then first thing is to differentiate between expenditure and income related to Bitcoin.”

²⁶“See,

http://rbi.org.in/scripts/BS_PressReleaseDisplay.aspx?prid=30247”

²⁷“Nishith Desai, *Bitcoins- A Global Perspective Indian Legal and Tax Considerations*, March 2015, available at <http://www.indiabitcoin.com/wp-content/uploads/2015/03/NDA-IndianLegalConsiderations- Bitcoins.pdf>.”

²⁵“Richard Chirgwen, *Android Bug Batters Bitcoin Wallets*, *The Register*, April 1, 2018, available at http://www.theregister.co.uk/2013/08/12/android_bug_batters_bitcoin_wallets/”

“If taxes are levied on Bitcoin then those are applicable to mining of Bitcoin as well as transfer of Bitcoin and with that we need to differentiate whether the Bitcoins are capital or income.”

7) Buy or sell Bitcoin in India

“There are many Bitcoin Exchanges in India where you can buy or sell and even store your Bitcoins. Unocoin, Buycoin, Zebpay, Coinsecure, LocalBitcoins, Bitxoxo are some of them. As Bitcoin is a digital asset and is very volatile in nature, it is always advisable not to buy them in large quantities to avoid volatility risk. Currently, most of the exchanges are not accepting new user’s registration due to uncertainty in Bitcoins in India. Most popular Bitcoin Exchanges in India are as follows –”

a) “Unocoin:”

“Unocoin is India’s leading Bitcoin Company. It enables Indians to buy, sell, store, use and accepts Bitcoin. Here one can buy Bitcoins with any bank account through RTGS, NEFT or online banking. But this exchange requires ID verifications and thus not private.²⁸”

b) “Zebpay:”

“Zebpay is a Bitcoin platform and broker based in India. It has Android and iPhone apps that make it easy to buy Bitcoins with a connected Indian bank account. It offers additional services, such as purchase of mobile airtime and gift vouchers for Bitcoin. Also, Zebpay has multiple security features. But similar to Unocoin it also requires ID verification.²⁹”

c) “Coinsecure:”

“Coinsecure is an Indian Bitcoin exchange and trading platform. It offers very low fees at just 0.3% per buy and a number of deposit options; including NEFT, RTGS, IMPS and cash deposit.³⁰”

d) “LocalBitcoins:”

“It is an escrow service which also helps to match Bitcoin buyers and sellers. The most common method of payment for purchase is cash deposit. However, users may advertise trades for whichever payment method they prefer. LocalBitcoin is a most private and one of the fast and easy exchanges for buying Bitcoins.³¹”

e) “CoinMama:”

“CoinMama allows customers in almost every country to buy Bitcoin with a credit or debit card. They charge an 8% fee on each purchase. If buying less than \$150 worth of Bitcoins, you won't need to verify your identity. This convenience makes small purchases quick and easy.³²”

Future of Bitcoin in India

“India has been looked as one of the nations that would shape Bitcoins future in the coming years.³³” According to economic report, weekly volume of Bitcoin trading has doubled after the demonetization of Indian currency. This drastic change has increased the value of digital currency in India.

“India is home to a billion people, still around 167 million people are unbanked even after launch of **Jan Dhan Yojna**. If this entire unbanked people could have a Bitcoin address, they could be banked easily and quickly through Bitcoin. With the proper awareness and training about the digital currencies, Bitcoin can help bring developing India into the global economy frame. Also Bitcoin can be merged with the most recent and popular payment systems like BHIM and Aadhar Pay. This will reduce the transaction fees drastically as payment with Bitcoin requires lesser fees. Bitcoin can also be a good way of investing your money like shares.”

“Opinion of Government of India, Regulatory Authorities & Market Players on Bitcoin”

The Bitcoin craze is catching on in India. While tech geeks and young investors eye the digital cryptocurrency as its value soars, the government, too, is contemplating a course of action surrounding its regulation. “In a move expected to boost financial inclusion, the Department of Economic Affairs in the Ministry of Finance in India has formed an inter-disciplinary committee to examine the framework on virtual currencies. In addition, the government initiated a discussion on its forum MyGov to seek public opinion on virtual currencies.”

“Clearly, despite some initial reservations, the Indian government is keen on understanding how Bitcoin works and is willing to deploy resources to build frameworks. So, if Bitcoins are legalized in India, the following would happen: -

- (i) Bitcoins would fall under the purview of RBI’s 1934 Act.
- (ii) Bitcoin investors would be taxed.
- (iii) RBI would issue guidelines regarding investment and purchase of Bitcoins.
- (iv) If any foreign payment is made through Bitcoins, it would fall under the purview of FEMA Act.
- (v) Returns from investment in Bitcoins would be taxed.”

Interestingly, the news comes around the same time when the Bitcoin trade analyst, Chris Burniske, highlighted that trades from India accounted for 10% of global cryptocurrency trade, in May. He tweeted a chart tracking cryptocurrency trades that show India accounted for 16,754.76 coins by trade volume. It has also been ranked fourth on the Bitcoin cryptocurrency trading market.

“Over the past few years, despite the lack of regulations in the Indian digital currency industry, a few Bitcoin exchanges have sprung up and started operating with self-regulated

²⁸<https://www.unocoin.com/>”

²⁹<https://www.zebpay.com/>”

³⁰<http://www.coinsecure.com/>”

³¹<https://localbitcoins.com/>”

³²<https://www.coinmama.com/>”

³³ Shree Sule, “*Bitcoin - Growth and Future of the Industry in India*”, April 1, 2018, available at <http://bwdisrupt.businessworld.in/article/Bitcoin-Growth-and-Future-of-the-Industry-in-India/17-05-2017-117932/>

trading platforms with strict *Know Your Customer (KYC)* and anti-money laundering systems in place. These include startups like Zebpay, Coinsecure and Unocoin. These startups have also risen funding from investors and have slowly been building faith in the Bitcoin and digital currency sector despite skepticism from the government. Blockchains which have the potential to transform the bank back-end operations function, as well as increasing the speed of payments. The bank said that with its potential to fight counterfeiting, the blockchain is likely to bring about a major transformation in the functioning of financial markets, collateral identification, and payments systems.”

“In December 2015, former RBI Governor Raghuram Rajan had stated that digital currency was fascinating, and that India’s central bank could use digital currencies.” He had said, “*I have no doubt, that down the line, we will be moving towards primarily a cashless society and we’ll have some kind of currencies like this which will be at work.*” But in February this year, the RBI issued a cautionary press release, on the back of an earlier one issued in December 2013. “The release warned users of the risk they are likely to already be aware of. Namely, that the RBI does not regulate and has not licensed any virtual currencies in India. Hence, anyone using them does so at their own risk. A month later, on March 1, 2017, RBI Deputy Governor R. Gandhi also raised concerns over virtual currencies. He said that cryptocurrency poses potential financial, legal, customer protection and security related risks.”

“However, in the backdrop of the growing use of Bitcoins post demonetization and the stringent self-regulations being followed by Bitcoin exchanges, it seems the government has taken note of the fact that it cannot shy away from virtual currencies anymore especially when regulators elsewhere are adopting proactive measures. As per a *Trak.in* report, in 2016, the country possessed around 50,000 Bitcoin wallets and around 700-800 Bitcoins were traded every day.”

“Consequently, in April this year, the Department of Economic Affairs in the Ministry of Finance in India formed the interdisciplinary committee to examine the framework on virtual currencies. In addition, the government initiated a discussion on its forum, *MyGov*, to seek public opinion on virtual currencies. Clearly, despite initial reservations, the Indian government is keen on understanding how Bitcoin works and is willing to deploy resources to build frameworks. According to the MyGov site, nearly 4,000 comments were submitted in recent weeks. Additionally, private Bitcoin companies have even formed their own association – the Digital Assets and Blockchain Foundation India (DABFI). The self-regulated entity is working towards educating the masses about cryptocurrencies and informing them about best industry practices for businesses.”

Countries those have legalized Bitcoins - ³⁴

- **The United States**

³⁴ Prableen Bajpai, CFA (ICFAI), **Countries where bitcoin is legal & illegal (dish, otsk)** at <https://www.investopedia.com/articles/forex/041515/countries-where-bitcoin-legal-illegal.asp>

“The United States has taken a generally positive approach towards bitcoin. At the same time, it has several government agencies working on preventing or reducing the use of bitcoin for illegal transactions. Prominent businesses like Dish Network (DISH), Dell, and Overstock.com (OSTK) welcome payment in bitcoin. The digital currency has also made its way to the U.S. derivatives markets, which speaks about its increasingly legitimate presence.”

- **Canada**

“Bitcoin is viewed as a commodity by the Canada Revenue Agency (CRA). This means that bitcoin transactions are viewed as barter transactions, and the income generated is considered as business income. Canada considers bitcoin exchanges to be money service businesses. This brings them under the purview of the anti-money laundering (AML) laws.” Bitcoin exchanges need to register with Financial Transactions and Reports Analysis Centre (FINTRAC), report any suspicious transactions, abide by the compliance plans, and even keep certain records.

- **Australia**

“Australia allows entities to trade, mine, or buy bitcoin. The Australian Taxation Office (ATO) considers bitcoin transactions barter arrangement subject to appropriate taxes depending upon the use and user (full document).”

- **The European Union**

“Though the European Union (EU) has followed developments in cryptocurrency, it has not issued any official decision on legality, acceptance, or regulation. In **Finland**, the Central Board of Taxes (CBT) has given bitcoin a value-added tax exempt status by classifying it as a financial service. Bitcoin is treated as a commodity in Finland and not as a currency. The Federal Public Service Finance of **Belgium** has also made bitcoin exempt from value added tax (VAT). In Cyprus, bitcoins are not controlled or regulated but are not illegal either. The Financial Conduct Authority (FCA) in the **United Kingdom (UK)** has a pro-bitcoin stance and wants the regulatory environment to be supportive of the digital currency. Bitcoin is under certain tax regulations in UK. The National Revenue Agency (NRA) of **Bulgaria** has also brought bitcoin under its existing tax laws.”

- **Germany** is open to bitcoin; “it is considered legal but taxed differently depending upon whether the authorities are dealing with exchanges, miners, enterprises, or users.”

2. Discussions

“Transactions in bitcoin are still considered unsafe as the prices of bitcoins are highly volatile – they can increase or decrease over a short span. Transactions made using bitcoins cannot be reversed; the person receiving the money can only refund them. So unless we are transacting with familiar and trustworthy people, money sent from our account has no guarantee. Since all bitcoin transactions are stored on its network, anybody can gain access to view transactions and balances behind an address.

Nevertheless, bitcoins are a huge hit, especially with countries like Japan and Russia, who have legalized the use

of this cryptocurrency. Transactions for purchase and sale are made through bitcoins on digital wallets like Green Address, GreenBits, and Mycelium etc.

However, the scenario in India is certainly different. The government of India has not officially authorized the use of Bitcoin despite its significant demand by the people. India's apex banking institution i.e. the Reserve Bank of India has warned the users, holders and traders of cryptocurrencies against potential risks regarding the safety and finance."

"The creation, trading or usage of Digital Currencies including Bitcoins, as a medium for payment is not authorized by any central bank or monetary authority. No regulatory approvals, registration or authorization is stated to have been obtained by the entities concerned for carrying on such activities," the Central Bank had said.

"The fact that the government is resilient to bitcoin has led to the latter gaining loyalty from people involved in suspicious activities like gambling or dealing in drugs. The further the technology develops, the greater will be the number of people who use bitcoin as a money-laundering mediator."

"When countries like China enforced control over bitcoin exchanges, initially there was a tremendous fall in its price but soon, it shot up. It is impossible for the Government to eradicate bitcoins because the blockchains exist and are copied all over the internet. Therefore, rather than banning dealers, the government should provide guidelines for the operation of bitcoin exchanges because certain customers will still want to buy them and so will turn to foreign exchanges."

"If the government of India legalizes Bitcoins in our country, they will be covered under the RBI Act of 1934. Taxes will be levied on investors and the returns from their investments. Experts like **Raghuram Rajan**, the former governor of the RBI, believe that despite their drawbacks, users will develop ways to ensure the safety of bitcoins and that they could also be the most prominent method of payment in future. *The Segwit* (Segregated Witness) software released in the Bitcoin Improvement Proposal has paved way for a user-friendly Bitcoin market. This update will ensue in the software once the miners develop the new version. It will make the use of bitcoins cheaper, faster and easier by eliminating transaction signatures which would create more room for transactions and also reduce the time for approval."

3. Conclusion

"In terms of creation, Bitcoins are definitely one of the greatest innovations of man. With the amount of popularity that it enjoys, it may not be possible for the government to completely ban bitcoins. Most banks these days are trying to use the blockchain technology and since the government has not authorized Bitcoins, it has decided to introduce its own cryptocurrency named '**Lakshmi**'. This information was revealed by RBI's executive chairman Sudarshan Sen who also mentioned that the committee that proposed this idea is in its process of research."

"From a technical point of view, Bitcoin offers an interesting proposal for a decentralized payment system. But doing away with regulated intermediaries in payment systems exposes users to a number of new risks and costs, which will make its use only attractive for purposes which are underserved by existing payment systems. The price hikes of bitcoins suggest that this virtual object is largely regarded as a speculative asset rather than as a currency."

"While exposing the lack of competition in certain payment markets and potentially contributing to competition inducing innovation in payment systems, the bitcoin in its present form cannot therefore be expected to offer noteworthy competition for official currencies in their established domain. Its design points to instability over time, disfavoring adoption as a unit of account, means of payment and store of value."

"Nevertheless, if the Government of India legalizes Bitcoins, it will have various impacts like further increase trading volumes and Bitcoin activities in India by significant margins, allow Bitcoin startups to address concerns over security and risks pertaining to the use of Bitcoin and eventually work towards improving reliability of its infrastructure. Besides, technological innovations that are associated with bitcoins and other cryptocurrencies may inspire innovation in payment systems and other applications."

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