
THE NEW AGE CURRENCY: CRYPTOCURRENCY AND ITS LEGAL ANALYSIS

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ABSTRACT

Cryptocurrency is the new age currency which is completely digital. It is not present in any tangible form and neither is regulated by any government agency or any other regulatory body unlike the conventional currency. At present there are more than 14,800 cryptocurrencies trading across the globe. The conventional money and the new age digital currencies have a lot of difference, where the national currency depends on a lot of things including the government policies, economy and other factors, the digital currencies work purely on demand and supply system making it highly volatile. This makes everyone curious about the legality and need of cryptocurrencies. This paper aims to analyse the legal implications of cryptocurrencies and includes the history of money and evolution of currency in the world.

INTRODUCTION

The history of money has been ever evolving, in fact the concept of money goes way past history. Money was earlier found in metal coins, shells or paper however the value of it was not understood by earlier societies. Nevertheless, one thing that was clear was the importance of money evolved from the value societies and people placed on it with respect to in different situations such as for medium of exchange, a unit of measurement and unit of wealth.

The history before money goes back to acquiring and exchanging goods through the system of bartering. Bartering can be understood as a direct exchange of goods or services, for example a person who wants to get his haircut can give a barber in exchange for his services 5 pieces of eggs, or a farmer can exchange a kg of wheat with a pair of shoes from a shoemaker. However, the problem with bartering was that sometimes the value of the goods exchanged could not be at par hence, people needed currency involving easily traded items like animal skins, or weapons or spices and salts. These kinds of goods became the medium of exchange, even though their value of exchange was still negotiable.

China in 770 B.C. shifted from using objects as means of exchange to miniature replicas of the same objects casted on bronze, so people instead of carrying around weapons started to carry around coins. Moving to 700 B.C China devised the first ever system of paper money. However the first region to use an industrial facility (now known as minting) to manufacture coins was called Lydia, where in 600 B.C. the King Alyattes of Lydia minted first official currency made of electrum, a mixture of gold and silver that occurs naturally, the coins were also stamped with pictures that acted as denominations. Somewhere around A.D 1271 when Marco Polo visited China, he observed the hold that China had on its money system and various denominations, China even had inscripted death penalty in form of decapitation for those who try to counterfeit the money back at the time.¹

Whereas China moved to paper based currency long back, Europe was still using metal coins as their sole form of currency till 16th Century.

Nevertheless banks eventually shifted to paper based notes for depositors and borrowers instead of metal coins, these notes were used for exchange of their face value in metal or to buy goods and services. Colonial governments then in North America issued their first paper

¹ Andrew Beattie, The History of Money, Investopedia (Aug. 22, 2021), https://www.investopedia.com/articles/07/roots_of_money.asp.

currency to ease the business of shipments between Europe and North America. This significantly increased the potential of international trade. This also opened the horizons of currency market and currency trade where banks and other ruling classes would buy currency of other nations and influence the consumer power. The stability of a particular government or monarchy affected the value of the currency of the nation and hence the ability of the nation to trade in the international market. It is safe to say that the introduction of money was one the major reasons for increased speed and innovation in international trade and business. Money allowed people to trade in services and goods indirectly, and communicate the value of the services or goods in numbers. Nevertheless the concept of money and currency is not identical, as where the money is inherently intangible, currency is the physical manifestation of money.² Aforementioned texts take the reader through the history of currency building, however the evolution has yet not stopped as in the 21st century the world was introduced to two new kinds of currency: 1. Mobile payments and 2. Virtual currency.

Mobile payment is more of a kind of technology service provided by electronic devices such as cell phone, smart phones where anyone can electronically exchange the intangible currency for a specified value of goods or services.

Whereas virtual currencies have no physical coinage, it is virtual and operates similar to physical currency. However it is not governed exactly as national currency or mobile payments. It is a currency of its kind also known as crypto currency.

The authors of this paper take the reader on a journey to understand what virtual currency is, what are different types of virtual currency, how it works and its importance. The authors also try to analyse the legal aspects of virtual currency in this paper.

² *Id.*

CHAPTER 1

WHAT IS CRYPTOCURRENCY?

Cryptocurrency is a type of digital or virtual currency which is secured by cryptography which ensures that the currency cannot be counterfeited or double-spended. It is generally not issued by any central authority and hence it is theoretically immune to government interference or manipulation. The cryptocurrency is based on encryption techniques which are used to secure networks based on blockchain technology. Cryptocurrency allows the users secure payments online which are denominated in terms of virtual “tokens”, which are represented by ledger entries internal to the system. In fact “crypto” is a reference to different encryption algorithms and cryptographic techniques that secure the entries, such as elliptical curve encryption, public-private key and hashing functions. Therefore, it can be said that cryptocurrency is a system of value, when a person buys cryptocurrency, they are betting that the value of their asset will increase in future, this is similar to the concept of stock market where investors buy securities in expectation of returns in way of increased value of shares. Whereas the stock valuation are discounted estimations of a company's future cash flows, since cryptocurrency does not have any underlying company the value of cryptocurrency depends on investors demand and appetite and utility of the cryptocurrency blockchain.³

Blockchains are the organizational method to ensure the integrity of the transaction and are an essential component of cryptocurrency. It is believed that the technology related to blockchain has a potential of disrupting the financial and legal industry.⁴

Since cryptocurrencies run on blockchain technology, it is necessary to understand it. Blockchain is a digital ledger of transactions distributed across a network of computer systems, therefore rather than a single system that controls the ledger the decentralized network of computers authenticates the transactions. It is believed that this method improves the transparency and security of data being shared across the network, however it can be a cumbersome process, inefficient, expensive and energy consuming. The Cryptocurrency transactions are recorded in perpetuity where the transactions are added to the chain of transaction in the form of blocks, which further validates the authenticity of the transactions

³ Jake Frankenfeld, Cryptocurrency, Investopedia (Oct. 30, 2021), <https://www.investopedia.com/terms/c/cryptocurrency.asp>.

⁴ *Id.*

and runs the network. The transaction blocks are shared ledgers and are public, anyone can look at the transactions. The computing done for the cryptocurrency is an incentive driven system also known as proof-of-work mechanism, the people who work to prove the authenticity of the transactions are called miners who in return of their work receive minted crypto assets.⁵ The cryptocurrencies are not held in traditional bank accounts but on a digital address, which comes with a public key and private key and enables the investor to send and receive funds using their private key. Since the inception of cryptocurrency the corporations have embraced their potential to evolve.⁶ However, in trend the cryptocurrencies have their fair share of criticism for being used in illegal activities, exchange rate volatility and other vulnerabilities.⁷ At present there are more than 14,800 different kind of cryptocurrencies being traded publicly⁸, wherein the total value of cryptocurrencies in November, 2021 was more than \$2.5 trillion. Some of the major cryptocurrencies in the world are as follows:

1. Bitcoin: It was created in 2009 as a decentralized digital currency. It followed the idea set out by a pseudonymous Satoshi Nakamoto. It offers the promise of lower transaction fees in comparison to other payment mechanisms. It is operated by decentralized authorities unlike government issued currencies. It is also created, distributed, traded and stored in a decentralized ledger system also known as blockchain. It has a greater market hold compared to other cryptocurrencies due to its early inception. Bitcoin has gone through a fair share of ups and downs, resulting in huge fluctuation in its value.⁹
2. Ethereum (ETH): It came out as the first alternative to Bitcoin. It's decentralized software platform helps the smart contracts and decentralized applications to run without any fraud, control of interference from a third party. It aims to create a decentralized suite of financial products which is widely accessible regardless of nationality, ethnicity or faith. The users in countries without state infrastructure or identifications can get access to bank accounts, loans, insurances with the help of it.¹⁰

⁵ John Hyatt, *Decoding Crypto: What It Is, How It Works and How To Get Started*, Nasdaq, (July 6, 2021), <https://www.nasdaq.com/articles/news-and-insights/what-is-cryptocurrency-and-how-it-works>.

⁶ *Id.*

⁷ *Id.*

⁸ CoinMarketCap, <https://coinmarketcap.com/all/views/all/>.

⁹ Jake Frankenfield, *BitCoin Definition*, Investopedia, (Nov. 19, 2021), <https://www.investopedia.com/terms/b/bitcoin.asp>.

¹⁰ Luke Conway, *10 Important Cryptocurrencies Other than BitCoin*, Investopedia, (Nov. 19, 2021) <https://www.investopedia.com/tech/most-important-cryptocurrencies-other-than-bitcoin/>.

3. Litecoin (LTC): It was launched in 2011, and is often referred to as silver to Bitcoin's gold. It was created by Charlie Lee, a former Google engineer and an MIT graduate. It is an open source payment network that uses scrypt as P-o-W, which can be decoded by consumer-grade CPUs; it is not controlled by any central authority. It is similar to bitcoin however it has a faster block generation rate and hence faster transaction confirmation time. At present Litecoin has a market capitalisation of \$14 Billion and it is accepted by a growing number of merchants, making it the 17th largest cryptocurrency in the world.
4. Cardano (ADA): It is an Ouroboros proof-of-stake cryptocurrency which was mainly developed for peer reviewed research by engineers, mathematicians and cryptography experts. The project was co-founded by one of the founding members of ETH, Charles Hoskinson. The aim behind ADA is to be the world's financial operating system by establishing decentralized financial products similar to ETH and to provide solutions for chain interoperation, legal contract tracing, voter fraud etc. It has the 6th largest market capitalization of \$57 billion as of November, 2021.¹¹
5. Polkadot (DOT): It aims to deliver interoperability in different blockchains by its relay chain mechanism that connects permissioned and permissionless blockchain, and oracles to allow systems to work together. It was also created by one of the founding members of ETH, Gavin Wood, and it has a market capitalization of \$41 billion, as of november 2021.¹²

Market Capitalization of top 10 cryptocurrencies

Cryptocurrency	Market Capitalization
Bitcoin	\$1.1 Trillion
Ethereum	\$492 Billion
Binance Coin	\$94.3 Billion
Tether	\$73 Billion

¹¹ *Id.*

¹² *Id.*

Solana	\$62.1 Billion
Cardano	\$61.7 Billion
XRP	\$49.8 Billion
Polkadot	\$40.1 Billion
USD Coin	\$34.4 Billion
Dogecoin	\$30.5 Billion

as per November 2021¹³

¹³ Supra at note 8.

CHAPTER 2

CRYPTOCURRENCY IN REAL LIFE

As several advancements are being made in various fields, we are also becoming smarter currency wise. Crypto currency has revolutionised the world in ways which we could not even fathom fifty years ago. It has had a huge impact on currency and the way the world works. It has changed the way we store money, do business and pay for goods and services.

Apart from that, the use of crypto currency diminished the risk of fraud. Fraud is one of the biggest issues we face when it comes to anything concerned with money. If one transfers funds or uses a credit or debit card on a site that is not secured, there is a huge possibility of fraud which in turn results in problems for everyone who has used the site or will use it in the future. One of the ways crypto-currency can protect people from fraud, as it is not linked to one's bank account or cash funds and is transferred electronically and safely using blockchain which records all transactions made. Thus, in this way, crypto-currency plays a huge role in lessening fraud and in turn offering a peace of mind to all those who do their transactions electronically.

The use of crypto-currency also helps in increasing crowd-funding. Crowdfunding is a popular way which helps entrepreneurs raise money for their products or concepts. This way, investors can make investments which are small instead of some investors making investments that are large. This thus, alleviates risk. Without risk being a problematic factor, more investors will be willing to get involved. Crypto-currency positively affects crowdfunding as ICOs (initial coin offerings) revolve around crypto-currency which is used as the main source of capital for one's startup company's venture.

Crypto-currency further ensures that transfers are done instantaneously, do not need any fees, can be tracked and safely kept within the blockchain. While wires and bank- to-bank transfers are rather efficient, they are still relatively slower than the use of crypto-currency as some transfers may take a week or longer to be cleared and deposited, especially in cases where the said transfer is done internationally.

The use of crypto currency helps in making e-commerce stronger as it diminishes the risk of fraud for shoppers, along with vendors and sellers as these transactions are permanent. Moreover, crypto-currency is becoming more relevant as most people now

purchase the goods they require online. Hence, it is necessary to ensure safety for consumers as well as vendors and sellers who are doing everything using the internet. Crypto currency and blockchain technology have a huge potential in helping to eliminate scientific obstructions that are faced by us as it gives everyone access to real-time data and ensures that all main institutions, corporations and foundations are not keeping the vital information to themselves.

Apart from that, crypto currency will ultimately ensure that companies, businesses and individuals are held accountable in case they are following practices that are corrupt and not legal. It is important to ensure that the big corporates are doing their work ethically. Cryptocurrency can help as the technology used in it (which is blockchain technology) can't be changed like traditional currency can hence ensuring that companies and people are held accountable for their misdeeds.

Moreover, crypto currency makes sure that transactions are done in a safe manner whether they are foreign or domestic. This way one reduces risks of carrying cash on them. Crypto currency also gets rid of exchange/ transaction fees thus making the process of transaction much easier.

Crypto currency also provides countries with stable currency rates as it is accepted all around the world and is not subjected to exchange and interest rates. Crypto currency would also be much more helpful in terms of providing stability and certainty to those living in countries which are economically unstable.

Last but not the least, crypto currency is not subjugated to any of the rules and regulations which are put on by banks and the other various financial institutions that exist. Thus, it helps people in taking control over their own money and is a huge stress relief for many.¹⁴

However, with great power comes a lot of responsibility. For all its plus points crypto currency has several vices as well. Since all the transactions are conducted online, crypto currency may be used for transactions which are illegal due to the privacy and security of crypto currency transactions being quite high making it difficult for the government to track down users via their wallets or keep an eye on their data. Another disadvantage of using crypto currency is that because all transactions are being done online, the designers aimed to make

¹⁴ Due.com, 10 Ways Cryptocurrency Will Make The World a Better Place, Nasdaq, (Jan 16, 2018), <https://www.nasdaq.com/articles/10-ways-cryptocurrency-will-make-the-world-a-better-place-2018-01-16>.

source code that was essentially untraceable, powerful hacking defences, and impenetrable authentication mechanisms. Putting money in cryptocurrency, rather than actual cash or bank vaults, would be safer. However, if a user loses their wallet's private key, there is no way to recover it. The wallet, as well as the number of coins within, will be remain locked away. Thus, the user will suffer a financial loss as a result of this. Apart from this, the crypto currency cannot be reclaimed by the sender if there is a dispute between the parties involved, or if payments are sent to the wrong wallet address by mistake. Many people can utilise this to defraud others of their money. Because there are no refunds, one can simply be formed for a transaction for which they never received the product or services. Moreover, since mining crypto currency requires a lot of power and electricity, there are several adverse effects of the mining on the environment, thus causing the quality of our habitat to deteriorate. Therefore, crypto currency, while having many positive points and qualities, is ultimately not foolproof as it is susceptible to hacks, does not have a refund or cancellation policy, can lead to financial losses in case the data is lost and can be taken advantage of in terms of illegal transactions.¹⁵

¹⁵ Advantages and Disadvantages of Cryptocurrency, Geeks for Geeks, (May 10, 2021), <https://www.geeksforgeeks.org/advantages-and-disadvantages-of-cryptocurrency-in-2020/>.

CHAPTER – 3

ARE CRYPTOCURRENCIES LEGAL AND LOGICAL?

Crypto currency, as known, is fast gaining ground as an exciting option among potential investors in India. Not only people from big cities are interested in it but people from small cities and towns are also trying to gain knowledge about it and are investing in it. Despite many people are ready to invest in it, it is safe to assume that only few have considered whether Cryptocurrencies are legal or not?

Cryptocurrency is not owned or controlled by a country or a bank or it is not issued by a central bank of any country as can be seen in chapter 1. Neither are there any laws that allow or prohibit trading in crypto. So now the question arises, Is it a valid currency in India?

As per Indian norms, only the central bank i.e. The Reserve Bank of India (RBI) has the power to issue any currency. So, In conventional sense, you cannot buy or sell anything with Cryptocurrency as it is not a legal tender backed by sovereign guarantee. Cryptocurrencies are exchanged online within the country between individuals; they can be considered as digital currency and valid as an asset class in India. There is no legislation body that covers Cryptocurrencies in India but that does not mean that Cryptocurrency is illegal in the country. Nevertheless there is no regulatory body to safeguard the rights of Cryptocurrency holders in India.

In April 2018, the RBI issued a circular banning regulated financial institutions from entertaining and furnishing services to businesses who were dealing in exchange/trading of Cryptocurrencies, which put the entire Indian Cryptocurrency trading industry and investors in turmoil. The validity of the circular issued was challenged before the Supreme Court in various writ petitions led by crypto-trading realities. In its decision in *Internet and Mobile Association of India v. Reserve Bank of India*¹⁶. The Supreme Court meditated on Cryptocurrency and said that there was no proof of proportional damage that RBI regulated realities would face in dealing with businesses which operate in Cryptocurrencies.

ARE CRYPTOCURRENCIES REALLY SAFE?

No doubt that Cryptocurrencies are as safe as any other investment class, and is subject to

¹⁶ MANU/SC/0264/2020

market risks which are the same in mutual funds and stock Investments but the only thing which is different is that mutual funds and stock market are regulated and governed by government appointed and approved Securities and Exchange Board of India (SEBI). Due to the decentralized nature of Cryptocurrency, the trading of Cryptocurrency is not regulated by any governed body which makes Cryptocurrency more volatile.¹⁷

INDIA INTRODUCING ITS OWN CRYPTO.

Many countries around the world have banned Cryptocurrencies including China which earlier used to be a major player in Cryptocurrency mining space. Governments of most of the countries are worried that digital currencies will undermine the entitlement of central governments to issue fiat currency and regulate monetary policy as digital currencies will become a channel for dodging off tax and will shift wealth out of their jurisdiction¹⁸.

The Indian Government will soon table the Cryptocurrency and regulation of Official Digital Currency Bill, 2021. The bill seeks to ban all the private Cryptocurrencies but there will be few exceptions. Though there is no clarity on these exceptions, these exceptions will surely promote the official and regulated digital currencies which are going to be issued by Reserve Bank of India¹⁹.

¹⁷ Are Cryptocurrencies legal in India? Get the deets before you Invest, Times of India, 17th August 2020 <https://timesofindia.indiatimes.com/business/cryptocurrency/are-cryptocurrencies-legal-in-india-get-the-deets-before-you-invest/articleshow>.

¹⁸ Explained Where India Stands on Cryptocurrencies What New Bill Will Mean For Bitcoin and Company, (Nov. 24, 2021). <https://www.news18.com/news/explainers/explained-where-india-stands-on-cryptocurrencies-what-new-bill-will-mean-for-bitcoin-and-company>.

¹⁹ Ankita Chakravarti, India today, RBI Plans its own Cryptocurrency, India Today <https://www.indiatoday.in/technology/news/story/rbi-plans-its-own-cryptocurrency-proposed-crypto-law-may-ban-bitcoins-and-dogecoins-in-india>.

CONCLUSION

It is evident from history itself that the concept of money and currency is ever evolving. Earlier when there was no currency per se, the world followed the approach of barter, which had its pros and cons, where the cons overpowered the pros and hence, the world had to evolve with metallic coins. When the industrial mining of metallic coin was introduced soon enough, the world evolved to paper currency, and since then with the increase in its usability and ease, it got widely accepted in the form of currency. The introduction of paper currency increased global trade as the currency held a fixed but flexible value for goods and services. It also opened up the horizons of currency trade, where the currency of the country would be considered strong if the government, policy and the economy of the country would be strong. In the 21st century another revolution in the form of digital currency shook the world, where the aim of these digital currencies was to be free of any kind of government manipulation. As explained in Chapter 2 crypto currencies have their own pros and cons and it can be said as an important development with society and technology. However, it is not regulated by any regulatory body or central government and hence it carries along with it a certain kind of risk, but since the country has to lead on with the development, India has decided to regulate some crypto- currencies and introduce its own crypto-currency in the market. India is not the only country that has regulated cryptocurrency but China has been one of the first regulators considering it was even the early markets for crypto.

The Indian government is soon tabeling the Cryptocurrency and regulation of Official Digital Currency Bill, 2021, which will change the legality of cryptocurrency in India. Where India will ban certain cryptocurrencies, it will also introduce regulated currency safe for users.