

Cryptocurrency: Threat or Opportunity



Venkamaraju Chakravaram, Sunitha Ratnakaram, Ester Agasha,
and Nitin Simha Vihari

Abstract Though a weak currency is a sign of a weak economy and a weak economy leads to a weak nation, here we gave an attempt to study about the cryptocurrency. Cryptocurrency is also known as the digital currency of the 21st Century which moves in the form of cryptographic codes in between people or institutions those who are connected to peer to peer networks (P2P). Blockchain Technology plays a major role in the flow of cryptographic codes among various nodes in the P2P networks to convert into Cryptocurrency in the decentralized ledger environment. This paper investigates the working of cryptocurrency and its impact on economies, especially to list the threats and opportunities to the Indian Economy. Also gave an attempt to differentiate the cryptocurrency and fiat or real currencies on various aspects in the world economy. We used descriptive cum exploratory research methodology to get the desired results in the present research work.

Keywords Blockchain technology · Cryptocurrency · Fiat currency · Economy · Opportunities · Threats

V. Chakravaram (✉) · S. Ratnakaram
Jindal Global Business School, OP Jindal Global University, Sonapat, India
e-mail: vchakravaram@jgu.edu.in

S. Ratnakaram
e-mail: sratnakaram@jgu.edu.in

E. Agasha
Mekerere University Business School, Kampala, Uganda
e-mail: eagasha@mubs.ac.ug

N. S. Vihari
BITS Pilani, Dubai Campus, Dubai, UAE
e-mail: nitinvihari@dubai.bits-pilani.ac.in

© The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Singapore Pte Ltd. 2021

A. Kumar and S. Mozar (eds.), *ICCCE 2020*, Lecture Notes in Electrical Engineering 698, https://doi.org/10.1007/978-981-15-7961-5_71

1 What Is Economy

An area where Purchase, Production, Sales, Trade, Distribution and Consumption of goods and services among various economic agents taken place is known as Economy. These economic agents are main stakeholders of the economy generally known as individuals, business institutions, organizations and Government [1]. Generally, these transactions occur with a price tag mutually agreed and commonly expressed by two parties at a certain currency.

1.1 What Is the Relationship Between Economy and Currency?

Hence, based on the above discussion currency or monetary transactions occupy very limited space in the economy. Currency is known as a medium of exchange in the economy specially to circulate in the form of banknotes, coins, bill of exchanges, drafts, etc., Earlier we have barter system before the introduction of currency. But this barter economy presents many difficulties [1]. We will have to search for the right party to exchange our component with another party for our required component. When we identified the party, he or she may not have interested in exchange product or component. This is the biggest disadvantage of this barter system. Also, there are no standard measurements in the procedure. We cannot subdivide the exchanging commodities also very difficult to store. Hence, all these difficulties are overcome with the introduction of money or currency by the nations in their economies.

1.2 What Is Currency and Cryptocurrency, How It Works? How It Differs from Real/Fiat Currencies

Currency is known as the medium of exchange generally it will be in the form of banknotes, pay orders, bill of exchanges, demand drafts, coins, etc. Currency is a system of money commonly uses for the people of one nation or economy. We will use these currencies as a medium of exchange, to measure the value of the transaction between two parties or entities, to store the value for a long time as assets and to pay or settle the transactions by paying the money [1]. We can rate as good currency when a currency is having the following qualities. It must have general acceptability by the people and institutions living in that country. It must have portability nature with high value to carry easily from one place to another place. The material used to make that currency unit should be easily recognizable or cognizable. The material used to make the currency unit should be durable with a long life to store and use in future. It must of divisibility nature, in case we want to

divide the currency into subunits. Must have homogeneity with equal quality of the material used with equal weights. A Currency must also have to maintain its stability of value in all the times and it should be easy to fold or moulded with malleability nature [1].

2 Cryptocurrency

It is a 21st Century’s newly digitalized money, which will be available in the form encrypted cryptographic codes, transferred between peers and confirmed through a computer-based mining process in the decentralized public ledger systems well known as Blockchain Technology [2, 3]. Cryptocurrency also is known as Crypto Coin, Crypto Token, Crypto Money & Crypto Asset. This currency also is known as “DLT Currency, Virtual Currency” or “Digital Currency,” operates as a borderless, decentralized medium of financial exchange and value storage backed primarily by user consensus. With the help of Blockchain Technology, Cryptocurrencies are characterized by their nearly anonymous, entirely electronic peer-to-peer (P2P) transactions. These virtual currencies catch the imagination of customers, entrepreneurs, business venture investors or capitalists, philanthropists and software developers (Fig. 1).

Fig. 1 Various cryptocurrencies Source Invest Wisely.CA. [15]



These currencies are generated by systems, software solving complex algorithms—called “mining”—which also verifies these transactions. The online or internet-based medium of exchange uses Cryptography as a secured communication to exchange digital exchange of financial transactions. This cryptography was used during the Second World war to pass the quick and important communication or messages between authorities and army defence forces. Cryptography evolved with the combination of both computer science, mathematical elements and its formulas. The first used cryptocurrency was “Bitcoin” which was released in 2009. Cryptocurrency operates on a decentralized public ledger technology known as Blockchain Technology. Below given table (Table 1) is showing the difference between Cryptocurrency and Fiat or Real Currency.

Table 1 Comparison of currencies

Cryptocurrency vs fiat or real currency	
This is generated by computer software with the help of some mathematical formulas and coding	This is created, issued and regulates by Governments or Governmental agencies like Banks, Financial institutions etc.
It works based on the decentralized ledger technology or concept known as Blockchain Technology	It works based on the centralized Ledger accounting system
There is no monitoring or supervising or legally responsible authorities for this currency	Government of the concern nation or Central Banks of concerns nations are the monitoring, supervising and legally responsible authorities for this currency
This will be in the invisible form and will move in between individuals or institutions in the form of digitally coded medium of exchange known as Cryptography	This will be in the visible form will move in-between individuals or institutions in the physical form like currency notes, pay orders, demand drafts, coins and bill of exchanges
Supply of this currency will be in limited and at some point of time it will be exhausted and we can't release	Supply of this currency will be in an unlimited manner, at any time Government can print and release new currency through some financial and economic procedures
The journey of this currency started a decade ago only i.e., from 2009	The journey of this currency started 1500 years ago
Total 2454 currencies are there all over the world [6]	As per the United Nations Organization, there are about 180 fiat or real currencies are in circulation all over the world [7]
11 cryptocurrencies are famous among all 2454 currencies in terms of their trade value and volume	8 real or fiat currencies are famous among all 180 currencies in terms of their trade value and volume
They are, Bitcoin (BTC), Litecoin (LTC), Ethereum (ETH), ZCash (ZEC), Dash (DASH), Ripple (XRP), Monero (XMR), Bitcoin Cash (BCH), Neo (NEO), Cardano (ADA), EOS (EOS) [4]	They are the United States of America Dollar, European Euro, Japanese Yen, Pound Sterling, Australian Dollar, Canadian Dollar, Swiss Franc and Chinese Yuan Renminbi [5]

3 Analysis

3.1 Objectives

Based on the above ready articles and research papers, we found there is a gap in this area. Considering the prosperity of the nation, people and economy, we decided to list the threats and opportunities or new possibilities of cryptocurrency. Especially, we have listed all the points considering the trends and situations of the Indian economy.

Objective One: To list the threats of cryptocurrency to the Indian Economy.

Objective Two: To list the opportunities or new possibilities of cryptocurrency to the Indian Economy.

3.2 Brief About Indian Economy

India is one of the fastest-growing economies in the world. Experts are estimating that the Indian economy will stand in the top three within 10–15 years [8]. At present the Indian economy is the seventh-largest economy by nominal Gross Domestic Product (GDP) and stands as the third-largest economy in terms of its purchasing power parity (PPP) [9]. Indian Rupee is India's Official Currency also known as INR. Reserve Bank of India is managing agency of this currency in Indian on behalf of Government of India. Indian rupee (₹) is one of the oldest currencies in the world introduced in the 6th Century in Ancient India.

3.3 Stand of Govt. India on Cryptocurrency

An Inter-Ministerial Committee (IMC) appointed by Government India has strongly recommended banning all private cryptocurrencies in India. The IMC said, there are 2116 cryptocurrencies are showing their transactions at present in India [10].

3.4 List of Threats and Opportunities

Threats: The appointed Inter-Ministerial Committee (IMC) listing the following threats due to private cryptocurrencies on Indian Economy.

- 1) With wide entrance and narrow exit, these private cryptocurrency investments are causing for the collateral damage to individuals or organizations to rush to get out.
- 2) Volatility in the prices of these currencies may create a lot many speculative losses to the investors.
- 3) These currencies are Intangible, illiquidity natured invested assets, we can't convert them into fiat cash for emergency funds requirements and hampers convertibility and insurability.
- 4) All these cryptocurrencies are created by private players, not by the sovereigns or Government regulating agencies. Hence, we cannot catch these invisible players to prosecute or summon, incase if anything went wrong.
- 5) There is no proper intrinsic value, nor considered for these private currencies while introducing into the market.
- 6) Human errors, like remembering passwords, loss of memory, wrong typing of a single letter in the password also may cause for the permanent loss of this invisible asset some times.
- 7) There is no any fixed face value or nominal value for these private cryptocurrencies, they are unable to fix their prices as main releasing store value or medium of exchange price and there is no any pricing policy also.
- 8) Almost all these private cryptocurrencies are showing frequent fluctuations in their price values since inception. These fluctuations are creating unrest and fear in investors.
- 9) These private cryptocurrencies are not serving the main purpose of currency. Mostly these currencies are inconsistent at essential functions of currency and we cannot replace or convert or exchange with fiat currency immediately with these private cryptocurrencies.
- 10) There is no any legal jurisdiction in the Globe for these private cryptocurrencies and we can tender these currencies legally.
- 11) Mostly the people those who wish to convert their black money, illegal earnings or reserves into white, also to do money laundering practices are approaching and investing in these currencies. Finally, these private currencies are arranging an alternative and easiest platform to the criminally minded individuals, organizations to hide their illegal earnings in the form of cryptocurrency assets and to transfer easily out of the political boundaries of the nation.
- 12) Cyber risks on all sides also one of the threats to this currency. Since this currency is in the form software and mathematical formula or codes in the systems, if anything happened to the computer systems due to virus and hacking, tracing back the lost data and currency very difficult.
- 13) Lack of regularities on this asset at regulating bodies, tax agencies, controlling bodies from Government side. Estimation of this invisible asset, depreciation loss also difficult to show at the tax authorities while classifying under asset.

3.5 *Opportunities and New Possibilities*

- 1) **Global Financial System:** The first introduced cryptocurrency in the world has transformed the entire global financial system with its capitalization value of 64 \$ billion dollars. The total market value of all cryptocurrencies has crossed its total crypto assets value 824 \$ billions [11].
- 2) **Cost and Time of Transactions:** Since, there are no intermediaries, banks or any other regulating bodies on these currencies to generate and transfer, also since managing by all the network participants (P2P), at a cheaper cost and in less time we can perform the financial transaction easily using its Blockchain Technology. For example, a financial transaction worth approx. 300\$ million dollars was performed just for a 4 cents cost (\$0.04) on dated 27th July 2018 [12].
- 3) **Erase or Manipulations are not possible:** Since this Blockchain Technology is a decentralized ledger technology, the transaction happened is visible across the nodes across the networks. There is no possibility to erase or change of figures, words of the transaction.
- 4) **international Acceptance:** Some of the countries stated accepting these currencies. Recognized by their Governments, encouraging cryptocurrency holders to pay their tax liabilities, other Gov payments with Cryptocurrency.
- 5) **Payments through Social Media:** With the help of “Kik” messenger app, one can do payments without having a regular bank account. No hassles of currency exchange, payment formalities need to follow, when we are making payments to the abroad clients or individuals and no cost also.
- 6) **Lending:** Kiva is a lending company offering Bitcoin cryptocurrency as loans to some companies. Bitbond also doing the same [13].
- 7) **Retirement Benefits Services:** Bitcoin IRA is a company is providing retired individuals with these services. The invested amount in IRA will be converted into Bitcoins and benefits along with tax exemptions are providing to the accounting holders.
- 8) **Job Opportunities:** There are endless job opportunities through Startup companies in the cryptocurrency era. Plenty of jobs offers are there for content writers and marketers in this field.
- 9) **Initial Coin Offerings (ICO):** Some of the young entrepreneurs are interested in launching ICOs through their startups. Hence, there a lot of scope for the establishment of startups and enterprises [14, 16, 17].

4 Discussion

Though this cryptocurrency is having many drawbacks or threats, this could completely transform the current economic situation in Indian and abroad countries. Particularly we can use these cryptocurrencies in cross border transfers of financials

at low cost with less time without depending on intermediaries like banks and financial institutions., also we can use this to remit the wages and salaries to our human forces if we wish to introduce this cryptocurrency in our A to Z business operations. However, we can use this technology i.e., in other ecosystems globally. In addition to the possibilities of the cross-chain unification of blockchains, it provides the integration of all financial operations with different cryptocurrencies simultaneously.

5 Conclusion

Cryptocurrencies created an image now in the world markets basis on its Blockchain technology we can reduce the cost of international transactions. Also making these cryptocurrency transactions free and these cryptocurrencies are facilitating cross boarded economies integration. Same time these cryptocurrencies based technologies providing several other benefits as well in addition to the threats and opportunists.

References

1. Sudaran P (2016) Functions of money in the modern economic system
2. Telegraph R (2018) What is cryptocurrency how does it works and why we use it
3. Thomas D (2018) How does cryptocurrency work?
4. Bajpai P (2019) The 10 most important cryptocurrencies other than bitcoin
5. Anonymous (2019) Top 25 most traded currencies
6. Anonymous (2019) All cryptocurrencies. <https://coinmarketcap.com/all/views/all/>
7. Anonymous (2019) List of circulating currencies
8. Anonymous (2019) About Indian economy growth rate and statistics
9. Anonymous (2019) The economy of India
10. Rahul S (2019) Govt committee recommends a ban on cryptocurrency in India
11. Dante D (2018) Beware of crypto risks-10 risks to watch
12. Anonymous (2019) Cryptocurrency threat to the economy or new possibilities
13. Chalmers B (2017) New opportunities with cryptocurrency
14. Aashish S (2018) How cryptocurrency is creating endless opportunities in the job market
15. Beau H (2019) WTF is cryptocurrency?
16. Chakravaram V, Rao GVS, Srinivas J, Ratnakaram S (2019) The role of big data, data science and data analytics in financial engineering. In: Proceedings of the 2019 international conference on big data engineering. ACM, pp 44–50. <https://doi.org/10.1145/3341620.3341630>
17. Chakravaram V, Srinivas J, Ratnakaram S (2019) Use of ICTs in financial engineering applications in insurance business. In: ICT analysis and applications. Lecture notes in networks and systems, vol 93. Springer Nature Singapore Pte Ltd. https://doi.org/10.1007/978-981-15-0630-7_27