Cryptocurrency and its threat to Conventional Central Banks

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Abstract: The first cryptocurrency, Bitcoin was created in year 2009. In this paper, we have identified various threats to traditional banking system. We have conducted survey in India in to gauge attitude of people towards cryptocurrency. We found that younger generation people to a certain extent are aware of cryptocurrency, while older generation people lack awareness regarding cryptocurrencies. Today, world is experiencing many technological advances in payments system. Beginning from traditional banking to internet banking to mobile banking, we have machine to machine payments. Government of India is also taking efforts towards digitalization of India. Until last decade, Central banks were the sole authorities who had power to issue currency. On the contrary, cryptocurrency are created using blockchain mechanism which is released in fixed units. The encryption mechanism implemented makes it difficult for the intruder to manipulate the number of units. Each cryptocurrency is valued at a certain price. Based on the forecasting done, bids are made by the customers. But they are considered as private money. Cryptocurrencies being global, transactions can be carried out from any part of the world. Additionally, transaction charges are lesser for cryptocurrencies resulting in attracting more customers. High volatility and legality issues of cryptocurrencies that have arose now have resulted in backing off of customers and reduction in overall count. But resolving legality issues and enactment of an efficient regulatory firm, will help in the success of cryptocurrencies. Central Banks are conducting research on implementing their own Central Bank Digital Currencies as one of the ways to tackle the threats of private cryptocurrencies.

Keywords: *Central Banks; crypto currencies; conventional monetary system; perception; threat.*

1. Introduction:

Cryptocurrencies can be defined as the digital currencies created using blockchain technology where encryption algorithms based on mathematics are used to create millions of units of digital currency. Data mining is used in order to verify the transactions. They are not issued by central banks.

Before the advent of cryptocurrencies, the Central Banks were the sole authorities inclined to the issuance of legal currency and bills. Cryptocurrencies are an alternative unofficial currency developed out of digital technology. They are also referred to as digital currency, electronic currency, crypto-token, virtual commodity, cyber currency and so on. They may be deliberated over as money but not licit currency. Cryptocurrencies being not backed by any of the Central banks in the world are not recognized as a legal tender in several countries and hence has declared them as the harbinger of possible losses that citizens are exposed to.

Trends such as Internet of Things (IoT), machine-to-machine (M2M) payments, virtual economy and many more are still in progress. They have drastically impacted payment systems. Based on blockchain technology, cryptocurrencies can also be viewed as a potential threat to central banking. Lower transaction fees, including exchanges is one of the perks of cryptocurrencies. Let us assume while having to travel to multiple countries, in presence of cryptocurrencies, people would no longer need to pay for credit card charges to banks, worry if they run out of foreign currency, purchase foreign currencies at exchanges by paying commissions and so on. Hence cryptocurrencies have the capability to destruct Central Banking. These technological advances certainly pose a serious threat to the banks' profitability ultimately.

Many renowned authorities in the world have asserted that cryptocurrency has the power to dislodge the monopoly of the Central Banks. The governments as well as the Central Banks are not just contemptuous of Bitcoin and cryptocurrencies but are also afraid of their counterattack. It is not uncommon that several countries in the world such as India, China, and many more countries have issued warnings regarding investments made in cryptocurrencies. One of the reasons being stated as investments in cryptocurrencies create opportunities for several illegal activities such as funding for terrorism and money laundering.

In India, the Reserve Bank of India (RBI) has forbidden banks from conducting business operations using cryptocurrency. Also there is a general trend seen in the people of India, which they do not want to take high risk by investing and transacting through cryptocurrency, which is not supported by Indian laws. A few countries such as Qatar and Bahrain have been lenient in issuing laws regarding transactions involving cryptocurrencies, which involves banning transactions inside the country premises but citizens are allowed to transact outside the country borders.

The Bank of International Settlement (BIS) had conducted a survey to find out whether Central Banks would utilise digital technology to combat with the existing scenario. It was found out that Central banks are thinking about incorporating blockchain technology in order to create their own cryptocurrencies, known as Central Bank Digital Currencies (CBDC).

2. Literature review:

The tussle between Central banks and governments is not unconventional, with one institution wanting to control inflation and work on long-term financial stability and the other trying to elevate the liquidity to boost growth.

(Hayek, 1990)Put forth his notion of denationalisation of currency. He suggested that government monopoly of money must be obliterated, so that individuals and monetary entrepreneurs can provide best suited and variety of monetary products. This removal of monopoly will result in infeasibility of government in restricting the international movement of capital, thus safeguarding the dissidents from persecutions. He states that money does not have to be created as a legal tender by the government, it can emerge spontaneously. Such private money has been usually suppressed by government. The only cure is to replacement government monopoly of money by competition in currency supplied by the private issuers. These private issuers will help in retaining public confidence, will curtail the quantity of their paper issue and thus maintain its value.

In the study conducted by (Regulation of Cryptocurrency in Selected Jurisdictions, 2018), various judicial and policy prospects related to cryptocurrencies in 130 countries across the world are surveyed. It is found that in majority of the countries, Central banks have issued warnings stating disbelief in highly volatile and unregulated cryptocurrencies, which augments risks to the investors in the event of loss supplemented by exclusion from legal assistance desired by the citizens; and marked the difference between cryptocurrencies and the actual currencies issued and guaranteed by the countries making the latter supercilious. In some of the countries, banks and financial institutions are required to conduct due diligence that is brought into effect under their laws on money laundering and counter-terrorism. Few have brought investments in cryptocurrencies to a halt.

But not all countries consider it as a threat. They have recognized a potential in it and are developing cryptocurrency friendly environment. Few are working on developing their own cryptocurrencies.

(Moore & Stephen, 2016)In their study,they have examined the potential contribution of cryptocurrencies balances in the portfolio of external assets held by Central banks. Banks are not needed to manage the payments made through cryptocurrencies. Moreover the supply of cryptocurrencies is also not in the hands of the Central Banks. Supply of cryptocurrencies is looked after by the miners that earn transaction fees in the form of cryptocurrencies.

Cryptocurrencies, which are mostly preferred by people due to its lesser transaction charges and ease of payments, benefits of including widely used cryptocurrency, namely Bitcoin as a part of International reserves is examined. The study assumed a case in which Central Bank of Barbados had Bitcoin in a proportionately small portion of its portfolio in the period 2009-2015. Analyses showed that due to the increase in the value of the Bitcoin, the value of overall portfolio increased and thus resulting in generation of pronounced returns. However, as the proportion of Bitcoin in the portfolio increases, the volatility of the portfolio also increases. If the Bitcoin transactions to be taken place are assumed to be maximum 10% of the total transactions, then the share of Bitcoin in the portfolio of International Reserves of Central Bank of Barbados should be comparatively small.

(LeBlanc, The Effects of Crytocurrencies on the Banking Industry and Monetary Policy, 2016)Has clearly expressed the benefits of private money (Hayek, 1990) can now be seen in the form of cryptocurrencies. It is impossible to cause cryptocurrency inflation since the mining algorithms puts a barrier on the amount of currency that exists at a certain period of time. On the other hand, Central Banks try to control inflation but also claim to maintain at least a crawling inflation of about 2-3%. Inflation in reality ultimately affects the standard of living of the people. When banks are put on the cryptocurrencies which cannot be further influenced, conventional financial institutions such as banks will be responsible for their own losses and hence these losses cannot be fulfilled in the form of taxes charged to the people. This will result in long-term prosperity. On the other hand, politicians will have to suspend their fatuous programs as henceforth money cannot be manipulated and thus resulting in the weakening of government. Thus private expansion and growth will take place.

3. Research Methodology:

In the year 2018 major financial reforms took place in India such as demonetization, tax reforms, etc. The Indian economy started its journey towards cashless economy. In this havoc cryptocurrencies played a vital role as it was being influenced by international transactions. Various banks such as J. P. Morgan Corp. had considered cryptocurrencies as threat for their conventional banking practices. Some banks even quoted that “Cryptocurrency should not make the money out of thin air.”

Objective: The focus of the research is to study cryptocurrency and its effects on the policy making of the central banks, the study should give a clear idea about role of cryptocurrencies in the economy and to understand its advantages and drawbacks.

Collection and analysis of the secondary data from the different sources and discussion thereon is the tool adopted in this paper.

4. Analysis and Discussion:

Blockchain and its impact on economics & central banks is one of the hot topics for discussion in financial sector. Blockchain is a public ledger to track every transaction of the cryptocurrency. Blockchain's algorithm cannot be altered or hacked.

(Iskandar, Emerging Trends : 3 hottest trends in banking & their impact on industry & customer) Says currently money transaction through banking system is time consuming & requires financial intermediaries which increases service charge as well. Blockchain reduce the time & middleman and increases transaction security. Blockchain could also open challenge for central banks as businesses would prefer transacting directly without the need of banks. Hence there will be rise in non-banks & untraditional financial institutions.

Now let's see how the financial industry is responding to rise cryptocurrency.

From the rise of cryptocurrency, financial industry has most to lose. Central banks can't really ignore cryptocurrency as a mere fad. Cryptocurrency business is now hundreds of billions of dollars. 25% of U.S CEOs call Bitcoin as fraud & another 25% thinks that Bitcoin is founded on real technology but is overhyped. Banks have called for regulations on cryptocurrency as this will favour banks' interest. They demand these regulations as restrictive as possible. Even though banks deny legitimacy of cryptocurrencies, they appreciate the technology of blockchain behind it. Blockchain could help banks do their operation more effectively as this technology is most secured one. It will help banks make transactions real quick especially cross border transaction with security.

The truth is nobody knows what will happen when decentralised cryptocurrency will replace central banks. Because of this uncertainty most consumers & major corporations will continue to trust the central banks in near future to keep the economy stable.

(Vovchenko & Tishchenko, 2017) argue in their research paper that national security is at risk when people are using Bitcoin. Cryptocurrency keeps the user anonymous. Cryptocurrency provides a stage of development of financial terrorism and money laundering. This problem of money laundering is often discussed by financial experts. Cryptocurrency can be funded to any illegal organisation and the source of funding is kept anonymous. Plus there are jurisdiction problems when specially transferring money from across border.

Anonymity is what every criminal wants. It is no surprise that cryptocurrency is used on dark web to do illegal activities like buying drugs, selling illegal weapons etc.

On the other hand Putin wants to use this cryptocurrency to benefit the nation. Putin has ordered to make legal framework for use of cryptocurrency like taxing miners or putting cryptocurrency under regulatory body. Already countries like USA, Vietnam, South Korea and Canada have made laws for cryptocurrency market. Controlling cryptocurrency is outside of state's control. Countries like Venezuela, Zimbabwe use legal physical force to punish the users of Bitcoin. In countries like Zimbabwe, Afghanistan, people use cryptocurrency to avoid state's hyper inflated currency.

(Telley & Chris) say Cryptocurrency is like what social media was 10 years ago. Now social Media is part of our life. Social media allows everyone to get connected without any norms. Same might happen with cryptocurrency where everyone can use cryptocurrency without the conventional gatekeeper such as central banks. Now government across the world needs to understand the potential and threats of cryptocurrency and work on it to influence the economic world in future.

According to (DeVries, 2016), Bitcoin can act as gold (a commodity). Commodity market is legally accepted worldwide. Gold has high value in commodity market. Cryptocurrency can become big player (Legally accepted) worldwide. Cryptocurrency has moved past its infant stages and is already paving its way in niche market.

(Gladdin, 2015) thinks that some people who are troubled by the negative side of cryptocurrency ask to stop the development of cryptocurrency further. However, it is responsibility of economist, scientists and financial experts to analyse the cryptocurrency indeed which will allow users to better understand cryptocurrency and to be prepared for negative impact of cryptocurrency.

(Demertiziz & Wolff, 2018) has raised few Policy Concerns regarding use of cryptocurrency:
How blockchain technology helps innovation in finance? As technology will effectively do all the financial transaction at low cost and high speed, the effect of cryptocurrency still cannot be calculated as it is still not widely accepted yet.
Cryptocurrency can encourage criminals to do illegal activities: Anonymity of cryptocurrency transactions helps criminals to do illegal activities. Careful policies need to be designed to prevent illegal activities.
Due to the fluctuations in the value of cryptocurrency consumer's and investor's protection issue need to be considered. Financial stability of cryptocurrency is under question.
How Cryptocurrency can be taxed?
There should be some clarification on taxation to be done on cryptocurrency. State needs to acknowledge the legality of cryptocurrency before taxing it.

Possible Solutions:
-- Should cryptocurrency be isolated, regulated or integrated?
Right now cryptocurrency is isolated. Any regulatory measures on the cryptocurrency will hamper its growth and innovation. There is a third way where banks can design an interface between cryptocurrency and national currency which will give legitimacy to cryptocurrency. It can build trust among the customers of both central and cryptocurrency.
-- Regulations put on cryptocurrency should be globally coordinated.
As it is easy to launder money across border, things like tax evasion, frauds are on rise. All it needs is internet connection and computer. Hence to solve jurisdiction problems, global coordination is required. FSB or G20 summits are the best places to discuss this matter.
-- Cryptocurrency is totally technology driven. Hence, there is no one to be held accountable if technology goes haywire. Software is not sufficient to solve conflicts and disputes. This results in unstable systems. If cryptocurrency is integrated with central banks it might get accountability which will benefit the users.

The question remains, why banks are scared of blockchain in banks? (Mason).
Blockchain in banks are cost saving. However in the next step it could replace the shares of companies and it would record all the transactions independently in a decentralised manner. Middleman will no longer require. Japan has legalised cryptocurrency. Other countries will follow the same. Paper currency will get vanished. Virtual money will take over. Cryptocurrency is taking control away from central government. In future central banks become the oversight committee which will just make regulatory framework to manage cryptocurrency

5. Conclusion:

India is the second fastest growing economy in the world, after China. Moreover, India is expected to be the most populated country in the coming two decades. Hence we can say that India has a huge potential for cryptocurrency. In reality very few people are aware about the cryptocurrencies and private market. Moreover due to the regulatory issues, citizens prefer not to make investments in cryptocurrencies. Central banks do not regulate the cryptocurrency.

Indian investors favour the investment opportunities where there is little risk therefore; the perception of cryptocurrency for an Indian investor is not good. The veteran cryptocurrency investor, that used to invest in cryptocurrencies have started showing little concern about government's action regarding it. Therefore the trend to invest in cryptocurrency is observed to be falling as compared to, in late 2017 and early 2018. The recent bane by the Reserve bank of India as also had shown a government intervention in transaction of cryptocurrency.

Therefore, it is safer to say that rather than being a threat to the Reserve Bank of India, cryptocurrencies themselves are struggling to get good investors in India. The price volatility of cryptocurrencies that has shattered the sense of faith in them on the other hand is the strongest virtue of any Central Bank around the globe. Although Indian Government has tried various methods for cashless economic transactions a major chunk of transactions is still traditional and done through hard cash. The investors in India consider the real estate and other financial instruments of better investment options even before equity market holdings. For a newer cryptocurrency it is highly unlikely to get these traditional investors to switch from older techniques to newer ones.

The major function of central bank of production of money is considered of utmost importance in any country therefore, even if cryptocurrency pottery a better picture of deregulation of money and distributed control of peers on a transaction; it does not show a better alternative for Central Banks.

The most important is the Blockchain mechanism on which the cryptocurrencies are based, can be considered as the threat for the "Transactions". Blockchain has shown some union characteristics such as irreplaceability of the transactions, absence of dummy transactions and hypothetically impossible duplication of transactions that provides an upper hand to the technology over the conventional banking system. Therefore, every Central Bank, Commercial Bank or Private Sector Bank has to implement the Blockchain technology in one way or another in their system. The banking system has already gagged the upcoming consequences of Blockchain technologies and started taking steps toward implementation of it. This in turn mitigate the risk of sudden technology disruption i.e., Blockchain to hamper the banks and their profitable business

Cryptocurrencies could be rightly said to be the future of banking industry, but when it has enough customer based. And this base can only be developed if customers show faith in it. Therefore, we can say that, a cryptocurrency can be the future of the banking industry if it is being adapted, implied, distributed by the Central Banks which will provide the customers a sense of security in order to invest, trade and transact in the same. To sum up, blockchain technology is the potential disrupter of the existing financial services. But considering it has a potential threat for the Central Banks around the globe would be an aurous statement to be made in general. No doubt, it is the future but the banking system has shown agility to adapt the change and absorb the shocks and deliver some technically advanced products, features to the end consumer. Similarly, we can expect Blockchain and in turn, cryptocurrencies making its way in ordinary person's day to day life in India, but it will certainly be influenced by actions of some major financial institutions and the government.

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