

Regulating Cryptocurrency: A Challenge for the Central Government and Central Bank

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Abstract: A cryptocurrency is designed to be a currency, but it does not really function like a currency. Currency always has an issuer, usually a trusted entity like the sovereign. There are already indications that cross-border flows are taking place in cryptocurrencies. If this trend is regulated, a part of the flows related to trade payments, remittances or cross border investments would be made in these cryptocurrencies. Cryptocurrencies have specifically been developed to ignore the regulated financial system. These should be reason enough to treat them with caution. It is also seen that cryptocurrencies are not amenable to definition as a currency, asset or commodity; they have no underlying cash flows, they have no intrinsic value; that they are akin to Ponzi Schemes, and may even be worse. These should be reason enough to keep them away from the formal financial system. More significantly, they can destabilise the currency system, the monetary authority, the banking system, and in general Government's ability to control the economy.

Key Words: Cryptocurrency, Risk, Central Bank, Government, Financial Innovation

I. Introduction:

Cryptocurrencies are being considered as the innovations that would feature in decentralized finance, which are blockchain applications geared to disrupt the traditional financial system. The basic purpose of blockchain technology on which these crypto-products run, is to make financial intermediation, and therefore banks are negligent about this as of now. The class of crypto products are fundamentally designed to bypass the established financial system, and on a larger scale even the Government. Some experts claim that cryptocurrencies can be referred to as 'freedom' money. It may thus not be adequate, from a regulatory point of view, to treat cryptos as just another type of currency or asset or commodity but also as a potential social movement.

II. Objectives of Study:

The present paper has been designed on the basis of few objectives which have been elaborated as below:

- a. To understand the basic concept of cryptocurrency and allied products
- b. To assess the risk associated with cryptocurrency
- c. To discuss the issues which the RBI or central government needs to resolve about cryptocurrency

III. Conceptual understanding of cryptocurrency:

When a transaction is made using paper currency, all that the receiver needs to check is that the currency is not bogus or fraudulent. Thus, it is the receiver who authenticates the instrument of payment. This arrangement generally works, except for those few instances when the receiver fails to detect a authenticity of currency. In the case of digital transactions, the authentication of the payment is done by an intermediary like a bank, because almost all electronic transactions are transfer of money from one bank account to another. This arrangement also works as the bank certifies that the sender has sufficient balance in the account to complete the transaction. Some people are of the opinion that intermediation by banks is avoidable. This is because it is their perception that banks are not trustworthy, or they considered that the cost charged by banks is huge, or they were not comfortable with their transactions being tracked. Therefore, most of the governments have come out with the solution to create their own currency. The basic problem they need to address was: since electronic money can be easily replicated, in the absence of a trust institution like a bank, how does the network ensure that the same currency is not spent again, and again. This was called the 'double spending problem'. The first 'person' to effectively solve this problem was one Satoshi Nakamoto who paved the way and bitcoin was born. He did this by creating the blockchain. On a blockchain, when a transaction occurs, it is broadcast to all computers on the network. A set of new transactions, called a block, are authenticated by an agreed consensus mechanism, and then the validated transaction block is added to the previous chain of blocks. Every block is linked to the previous block, making double spending difficult because it would involve changing every subsequent block. Bitcoin was followed by many others, which collectively are called cryptocurrencies. The prefix 'crypto-' refers to the fact that cryptography is used to authenticate transactions. The defining characteristics of cryptocurrencies are i. That cryptocurrencies are decentralized systems where transactions are authenticated by participants themselves. ii. They are designed to escape the financial system and all its controls. They cannot be detected by Governments. Even the transaction of these currencies take place through bank accounts, the purposes of transactions cannot be traced and hence, they can escape from the government controls. They work over the internet without any physical existence.

The most popular cryptocurrency, Bitcoin was started more than a decade back in 2008, until 5 years ago, total market capitalisation of all cryptocurrencies was only \$20 billion. This went up to \$289 billion in February 2020 and thereafter exploded to reach a peak of \$2.9 trillion in November 2021. Currently (Feb 09, 2022) it stands at \$1.98 trillion. Bitcoin has 42% of the share in this market capitalisation, the top two cryptocurrencies account for 61% while the top five account for 71%. The total number of cryptocurrencies is at 17,436 and the total number of crypto exchanges is more than 450.

IV. An assessment of cryptocurrencies:

At this juncture, the time has come to assess the cryptocurrencies as to the exact nature of cryptocurrencies, their implications, and the present myths about it in India on the topic. The starting point is to get a clear understanding on (a) What exactly is a cryptocurrency, (b) What significant economic role does a cryptocurrency play, and (c) What, if any, are the risks it poses to the society and economy?

A cryptocurrency is designed to be a currency, but it does not really function like a currency. Currency always has an issuer, usually a trusted entity like the sovereign. Even when gold is used as a currency, the gold coins had to be issued by a sovereign entity. Historically, a currency has always been either a commodity with intrinsic value or a debt instrument. Cryptocurrencies do not match to this understanding of a currency as they do not have an issuer, they are not an instrument of debt, or commodities nor do they have any intrinsic value. Currency needs trust, not everything that can be trusted is a currency. So even if technology provides the trust for cryptocurrencies, they can at best perform the role of a currency within the private and closed environment of that cryptocurrency. They do not, and should not, automatically become a currency for the larger society.

In some countries cryptocurrencies are treated as a financial asset. This is also questionable because all financial assets have underlying cash flows and need to be some person's liability. Cryptocurrencies are neither liability nor do they have any underlying cash flows for any person. They are not financial assets, by definition.

There is also an attempt to treat cryptocurrencies as a commodity. But cryptocurrencies are neither like commodities as they are not tangible neither they have physical utility. There is this somewhat awkward attempt to equate some of them with gold, hence limiting their supply like natural resources, or creating them through mining. It is said that cryptocurrencies have limited supply and such design can always be modified and hence such limitation is artificial. If one cryptocurrency has limited supply, that limitation does not work for all cryptocurrencies taken together. Further the fact that gold is mined does not in itself make it money, it has to be stamped and issued by a state to make it money.

Thus, if cryptocurrencies are neither a currency in the usual sense of the term, nor a financial asset nor a physical asset, then what is their exact nature? The proponents have improvised to call them as digital assets. Even that is doubtful as cryptocurrencies do not have any underlying use, like for instance car hiring softwares or a core banking system, or, for that matter, smartphones. That basically leads to the conclusion that it is an electronic code which has created enough hype such that people are willing to pay money to buy ownership rights to that electronic code, on the hope that someone else would buy it at a higher price in future. What started off as a medium of exchange has appeal similar to that of a speculative asset.

Cryptocurrencies like bitcoin have given impressive returns so far. Cryptocurrencies are very much like a speculative or gambling contract working like a Ponzi scheme. In fact, it has been argued that the original scheme devised by Charles Ponzi in 1920 is better than cryptocurrencies from a social perspective. Even Ponzi schemes invest in income earning assets. A bitcoin is akin to a zero-coupon perpetual; it's like you paid money to buy a bond which pays no interest and which will never pay back the principal. A bond with similar cash flows would be valued at zero, which, in fact, can be argued as the fundamental value of a cryptocurrency. If everything eventually returns to its equilibrium value, then the prognosis for investors in cryptocurrencies is not a so good.

V. Role of cryptocurrency:

If cryptocurrencies are actually intended to revolutionize finance, it is to be understood what exact role they play in finance. An equity share enables a business to mobilize risk capital, a bond enables a company/Government to borrow money, a mutual fund enables retail investors to diversify their portfolio, derivatives enable users to manage their risk and so on. Every financial instrument exists to serve a basic purpose quite distinct from its use as an investment asset. In this connection, what is the role played by cryptocurrencies? Since it claims to be a currency, does it perform the functions of a currency? The answer is that the volatility of many cryptocurrencies make them as an efficient medium of exchange. Besides, a priori there is no ground to believe that people place the same trust in them as they do in legal tender currencies. With all indications their use as a currency appears to be negligible.

Are cryptocurrencies have utility? Given the surge in value of some cryptocurrencies, it has been argued that they have utility. Think of any store of value – they are either currencies, or financial assets or commodities which are tangible and have intrinsic value. We have seen that cryptocurrencies are none of these. Notwithstanding their current valuations, if a threshold number of people decide to opt out, the entire values can easily collapse to nothing.

The huge discussion about a revolutionary innovation, cryptocurrencies do not look to be designed to meet any need in the financial market that is currently not being met or to meet existing needs more efficiently. Still, this innovation can flourish even if cryptocurrencies are banned across the world as the enthusiasm among the people is increasing and is not going to come down even if any governments decide to ban cryptocurrency.

VI. The risks associated with cryptocurrencies:

There are two fundamental risks of cryptocurrencies: - i. they are intended to be private currencies and ii. they are structured to escape Government control with respect to financial integrity standards such as KYC. Historically, private currencies have resulted in instability. The retrograde step back to private currencies cannot be taken simply because technology allows it without any consideration for the dislocation it causes to the legal, social and economic state of society. Every private currency will eventually replace the Rupee to some extent. Consequently, the role of the Rupee as a currency will be undermined. With one or more private currencies being allowed, there would be parallel currency system(s) in the country. Thus, increased acceptance of cryptocurrencies would result in effective 'Dollarization' of our economy. In this situation, the monetary policy measures which are presently taken by the central banking system in India to combat problems like inflation, would not work, as monetary policy would not have any impact on the non-Rupee currencies or payment instruments. When that happens, India loses not just its currency, a defining feature of its sovereignty, but its policy control of the economy. With loss of traction for monetary policy, the ability to control inflation would be materially insignificant.

Cryptocurrencies priced in these convertible currencies like US Dollar or Euro would provide an opportunity to the people to convert their money. If private currencies are permitted, the banking system's ability to mobilise deposits in Rupees, and consequently, the ability to create credit, would get affected. Credit creation in convertible currencies would be impervious to monetary policy. In the extreme case where a major part of deposits and credit shift to cryptocurrencies, the result would be a troubled and a weak banking system, impairing financial stability.

There are already indications that cross-border flows are taking place in cryptocurrencies. If this trend is regulated, a part of the flows related to trade payments, remittances or cross border investments would be made in these cryptocurrencies. As they are non-reserve currencies, this could have negative implications for India's foreign exchange reserves, which lend stability to the external sector. Besides, such cryptocurrency payments can take place outside the ambit of capital account regulations. This would adversely affect the integrity of the capital account regime, as policy control on capital flows would be escaped. The consequence of this on foreign exchange reserve accretion and exchange rate management raises serious macroeconomic stability issues.

It is important to appreciate that the concern with private currencies is not limited to bitcoin or just cryptocurrencies. The concern extends to any private currency, whether digital or physical, whether crypto-based or not. Stablecoins are being promoted globally, presumably because they are more stable than bitcoin. The central banking system or government should in fact be more concerned about stablecoins because they would be more effective as currency than volatile cryptocurrencies.

There are few more important negative consequences of allowing cryptocurrencies into the formal financial system. It is already noted that there is no basis for valuation of cryptocurrencies. Since valuation is largely based on perception, and not on underlying value, it is bound to have a destabilizing effect on monetary stability of a country through huge wealth loss to investors, even if it not allowed to be used as a currency. The socially wasteful energy use of crypto infrastructure has been a subject of widespread discussion. By some estimates electricity use of bitcoins equalled that of the entire country of Switzerland in 2019. Thus, there does not appear to be any case to allow cryptocurrencies to be legalised in India. Nonetheless various arguments have been extended to permit cryptocurrencies and subject them to close regulations.

VII. Issues before the Central Government and the RBI about the cryptocurrencies:

There are two major views about the cryptocurrencies. One is to legalise and regulate the cryptocurrencies and another one is ban the cryptocurrencies. The first view i.e. to regulate the cryptocurrency is supported by the advocates of technology is that Blockchain or Distributed Ledger Technology is a promising technology where Indians might have a global edge. Most of the countries are not banning cryptocurrencies, but are considering some kind of regulation. Many Indians have invested in cryptocurrencies and banning it may lead to wealth loss for them. An argument often advanced against banning cryptocurrencies is that advanced economies are not resorting to such bans. While replicating the practices followed in such economies, it is often an acceptable route to reforms, as far as cryptocurrencies are concerned. It has to be noted that India is not similarly placed as advanced economies. If some private currency substantially replaces the Rupee, the corporate which manages that cryptocurrency can practically control India's economic policy. There are a number of other reasons why it might be in the interest of advanced economies not to ban them. Almost all cryptocurrencies are priced in terms of Dollars (or potentially any of the freely convertible currencies). Wider adoption would actually result in wider use of these currencies. So cryptocurrencies are not a threat to convertible currencies as they are to the Rupee, which is not an international currency. Most cryptocurrencies are owned by businesses of advanced economies; therefore, better adoption of cryptocurrencies would add to their growth and employment. Significantly, it might be of advantage to the advanced

economies if cryptocurrencies replace emerging market (EM) currencies as that would give them a better strategic control on the EMEs. Advanced economies have quicker legal systems and hence concerns of misuse of cryptos can be addressed through the legal systems. In India, on the other hand none of the major instances of consumer exploitation have been redressed legally. The advanced economies have the political power to control the crypto companies. The recent instance where the US recovered bitcoins from the hackers of the oil pipeline in US, is an example that notwithstanding claims of non-traceability of cryptocurrencies. India or most other countries would lack such advantages. Another argument often advanced is that so many Indians have already invested in cryptocurrencies and banning cryptocurrencies would lead to a loss of wealth for them. There are three reasons such arguments do not appear justified. One, banning in India does not mean investors would lose money, because they can be provided with a reasonable exit. Two, persons who have invested in these instruments are fully aware of the risks involved. Reserve Bank has been warning investors of the risks for nearly a decade. That an Inter-Ministerial Committee of the Government has recommended banning cryptocurrencies was widely known for the last three years, as was the fact that cryptocurrencies are not regulated products and there are no investor protection norms in place. Investors who have acquired these instruments have done so with their eyes wide open, at their own risk and do not warrant any regulatory dispensation. Three, there is no data to justify how many investors have invested in these instruments and what is the amount of investment. Data informally gathered in November seems to indicate that crypto investments by Indians is nowhere near to being significant (although the pace of growth could make it a concern in future). This data showed that four out of five investor accounts held investments of less than Rs.10,000, with an average holding size of Rs.1,566. Wealth loss, if at all it is a possibility, is likely to affect only a small fraction of these investors.

Interestingly, concentrated ownership appears to be characteristic of cryptocurrencies. As a January 2021 report published in The Telegraph points out: "According to industry data, around 13% of all Bitcoin sits in the hands of just over 100 individual accounts." They are referred to "crypto whales". Such concentrated ownership, usually by creators or initial investors, in what is touted to be (or at least hoped to be) the alternative monetary system, would make that system prone to manipulation. That cryptocurrencies should not be banned because a ban is unlikely to be effective is a superficial argument. One might as well argue that drug trafficking is a rampant phenomenon despite a ban, and therefore drug trafficking should be legalised and regulated. If cryptocurrencies are banned, the vast majority of investors who are law abiding would desist from investing. Those few elements who would continue to invest will essentially be carrying out an illegal activity. Such exceptions should reinforce the need for a ban, rather than invalidate it.

It has also been argued by some that the concerns raised in allowing private currencies as a 'medium exchange' are valid. Therefore, they may not be allowed as legal tender but should be allowed as an investment asset. This argument appears to be made more with hope than with any real conviction. Not allowing them as currency would still amount to cryptocurrencies being used as store of value. 'Store of value' demand is a more substantial source of demand for a currency than transaction demand. One only needs to compare the volume of time deposits with transactional deposits to understand this. If a cryptocurrency is used as a store of value the same concerns arise again. Also, unlike the value of Rupee, which is anchored by monetary policy and its status as legal tender, the value of crypto assets rests solely on the expectation that others will also value and use them. Since valuation is largely based on beliefs that are not well anchored, it is bound to have a de-stabilising effect on the monetary and fiscal stability of a country, even while it is not permitted to operate as a legal tender. There are other reasons why it would be futile to regulate cryptocurrencies. As discussed, cryptocurrencies are not currencies, or financial assets or real assets or even digital assets. Therefore, it cannot be regulated by any financial sector regulator. It is not possible to regulate something that one cannot define.

VIII. Conclusion:

The technology based virtual currency is having a philosophy to escape the Government controls. Cryptocurrencies have specifically been developed to ignore the regulated financial system. These should be reason enough to treat them with caution. It is also seen that cryptocurrencies are not amenable to definition as a currency, asset or commodity; they have no underlying cash flows, they have no intrinsic value; that they are akin to Ponzi Schemes, and may even be worse. These should be reason enough to keep them away from the formal financial system. More significantly, they can destabilise the currency system, the monetary authority, the banking system, and in general Government's ability to control the economy. They threaten the financial independence of a country and make it susceptible to strategic manipulation by private corporates creating these currencies or Governments that control them. All these factors lead to the conclusion that banning cryptocurrency is perhaps the most advisable choice open to India. This paper has examined the arguments proffered by those advocating that cryptocurrencies should be regulated and found that none of them stand up to basic scrutiny.

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