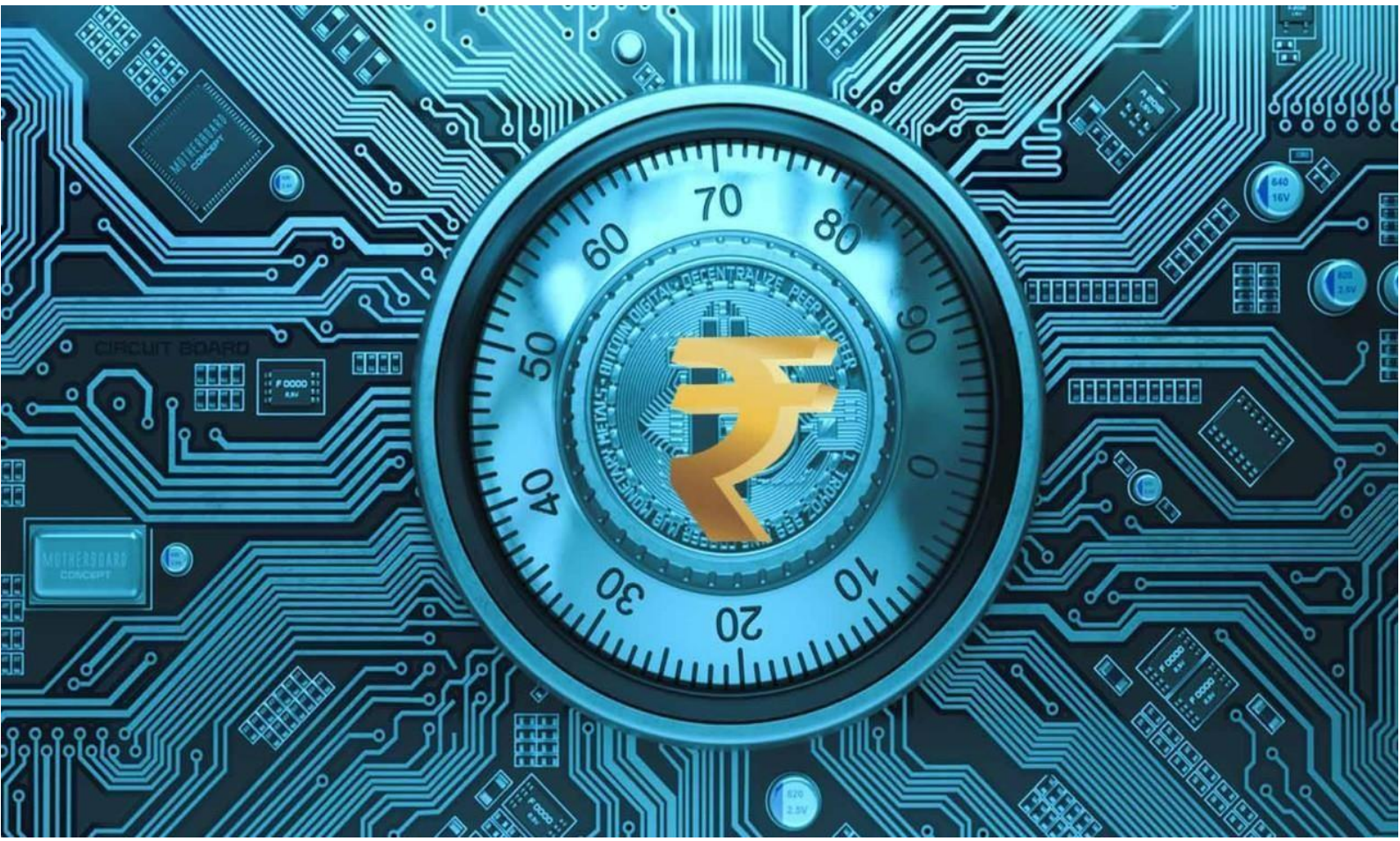
KIRTANE & PANDIT

Rupee -Digital Currency:
Its impact on the Indian Economy



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Introduction:

India will soon be getting an official digital rupee, Minister of Finance Nirmala Sitharaman announced during the Union Budget presentation on February 2. This form of a financial protocol is termed as a 'Central Bank Digital Currency' (CBDC). The regulation of the digital rupee, upon its rollout, will be supervised by the Reserve Bank of India (RBI). While details on its official name and release date remain awaited, the digital rupee has become quite the discussion topic among intrigued Indians.

What is CBDC:

It is important to understand and appreciate what precisely is a CBDC and to do that one needs to understand what a currency is and what money is.

What is currency?

In modern economies, the currency is a form of money that is issued exclusively by the sovereign (or a central bank as its representative). It is a liability of the issuing central bank (and sovereign) and an asset of the holding public. Currency is fiat, it is legal tender. Currency is usually issued in paper (or polymer) form, but the form of currency is not its defining characteristic.

What is a central bank's digital currency?

Having defined a currency as a liability issued by the central bank, we are now in a position to define a CBDC. A CBDC is a legal tender issued by a central bank in a digital form. It is the same as a fiat currency and is exchangeable one-to-one with the fiat currency. Only its form is different.

It is also important to understand what a CBDC is not. CBDC is a digital or virtual currency but it is not comparable to the private virtual currencies that have mushroomed over the last decade. Private virtual currencies sit at substantial odds with the historical concept of money. They are not commodities or claims on commodities as they have no intrinsic value; some claims that they are akin to gold, clearly seem opportunistic. Usually, certainly for the most popular ones now, they do not represent any person's debt or liabilities. There is no ISSUER. They are not money (certainly not CURRENCY) as the word has come to be understood historically.

A line of argument that has helped private virtual currencies gain some degree of legitimacy is that most money in modern societies is already private since they represent deposit liabilities of private banks. There are two factors that are conveniently pushed under the carpet. One, deposits are issued by banks under the license of the sovereign issuer of currency (usually the central bank). Two, deposits are accepted by the public only because they are convertible one-to-one into sovereign currency. A simple way to understand the distinction is to look at deposits as a lending of sovereign currency to banks by the public, on interest (credit, its opposite side, is lending of sovereign currency by banks to the public, on interest). Bank deposits are money, certainly, but they have no independent existence as money, shorn of sovereign authority and the resultant public confidence. In any case, bank deposits are very different from private currencies which (a) do not have an issuer, and (b) are not convertible one-to-one into the sovereign currency.

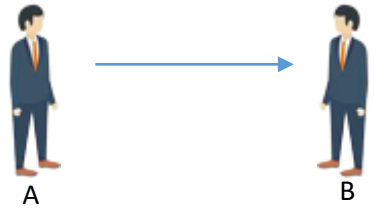
To sum up, CBDC is the same as currency issued by a central bank but takes a different form than paper (or polymer). It is a sovereign currency in an electronic form and it would appear as a liability (currency in circulation) on a central bank's balance sheet. The underlying technology, form, and use of a CBDC can be molded for specific requirements. CBDCs should be exchangeable at par with cash.

Central bank digital currencies are digital tokens, similar to cryptocurrency, issued by a central bank. They are pegged to the value of that country's fiat currency. Many countries are developing CBDCs, and some have even implemented them into their financial systems. Interest in CBDC has grown in response to changes in payments, finance, and technology, as well as the disruption caused by Covid-19. A 2021 BIS survey of

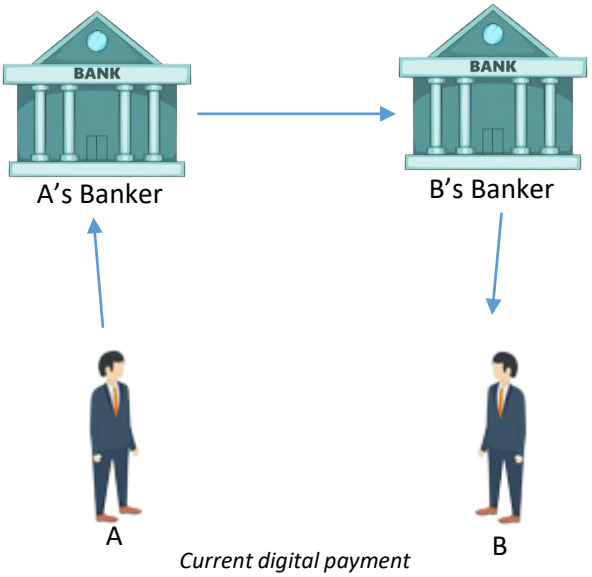
central banks found that 86% are actively researching the potential for CBDCs, 60% were experimenting with the technology and 14% were deploying pilot projects.

In simple terms, a central bank digital currency (CBDC) would be a digital banknote. It could be used by individuals to pay businesses, shops, or each other (a "retail CBDC"), or between financial institutions to settle trades in financial markets (a "wholesale CBDC"). In a world with CBDCs, we would not need banks for making payments. The central bank of a country, the RBI in our case, would run a technology platform of its own. Every citizen of the country would have an "address" on this platform. And you would have a private key to “sign” transactions. You can consider CBDC to be a government-run version of Bitcoin.

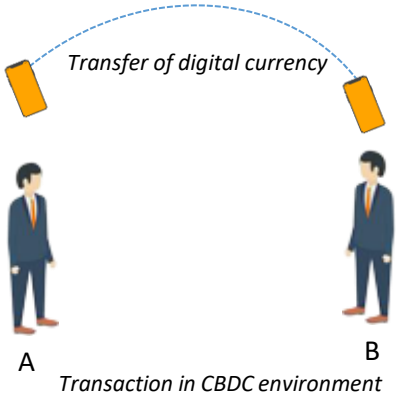
You might be wondering how it is different from other online options such as GPay, Phonepe, etc. Cryptocurrency is decentralized and free from any third-party interference, which means it is not issued or controlled by any government or any central authority, unlike other payment options which the government handles. For Instance, you may have experienced many a time that your transaction has failed. There might be many reasons such as you have reached your daily transaction limit or your account may have been hacked or there might be a technical issue at the bank’s end. So, in the case of cryptocurrency, none of these issues will arise, as it runs on the Blockchain Concept.



Normal Cash Transaction

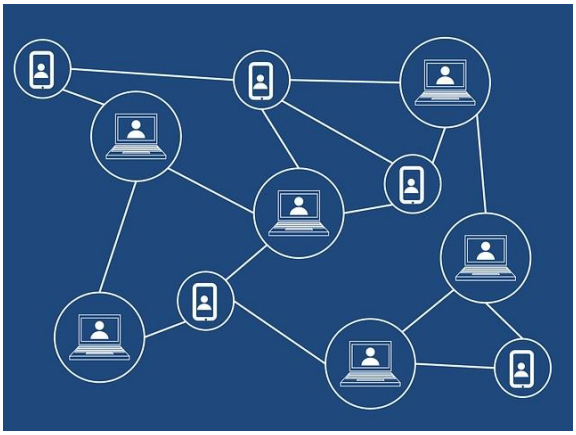


Current digital payment through banking platforms



Transaction in CBDC environment

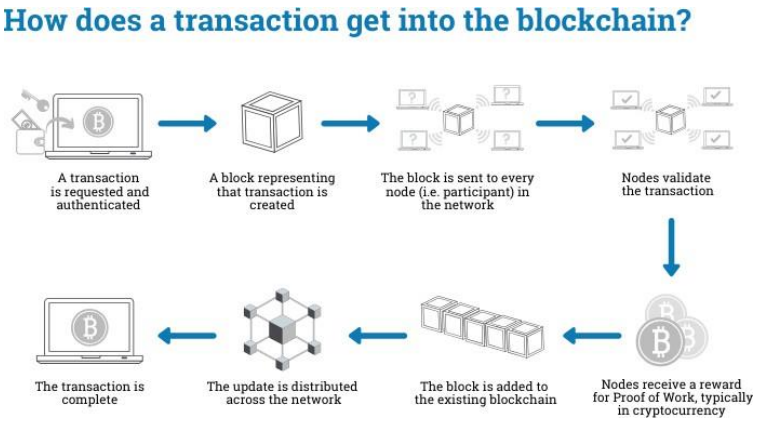
What is Blockchain:



A blockchain is a distributed database that is shared among the nodes of a computer network. As a database, a blockchain stores information electronically in digital format. Blockchains are best known for their crucial role in cryptocurrency systems, such as Bitcoin, for maintaining a secure and decentralized record of transactions. The innovation with a blockchain is that it guarantees the fidelity and security of a record of data and generates trust without the need for a trusted third party.

Imagine that a company owns a server farm with 10,000 computers used to maintain a database holding all of its client's account information. This company owns a warehouse building that contains all of these computers under one roof and has full control of each of these computers and all of the information contained within them. This, however, provides a single point of failure. What happens if the electricity at that location goes out? What if its Internet connection is severed? What if it burns to the ground? What if a bad actor erases everything with a single keystroke? In any case, the data is lost or corrupted.

What a blockchain does is allow the data held in that database to be spread out among several network nodes at various locations. This not only creates redundancy but also maintains the fidelity of the data stored therein—if somebody tries to alter a record at one instance of the database, the other nodes would not be altered and thus would prevent a bad actor from doing so. If one user tampers with Bitcoin's record of transactions, all other nodes would cross-reference each other and easily pinpoint the node with the incorrect information. This system helps to establish an exact and transparent order of events. This way, no single node within the network can alter information held within it.



As the data is stored at decentralized location, it can be easily accessible to complete the transactions, so as said earlier, those issues cannot arise while transacting through cryptocurrency.

Demerits of Cryptocurrency:

A major issue of cryptocurrency is the sharp volatility in the values of a cryptocurrency over relatively short periods. Consequently, maintaining price stability becomes extremely difficult. Cryptocurrencies also consume huge amounts of energy that create large negative externalities. This is because the validation of transactions requires the use of vast computational resources and energy for running them. Similarly, the

absence of regulatory intermediaries and decentralized transactions also raise fears of cryptocurrency being used for illegal activities.

But the real worry is that cryptocurrencies will disrupt the capability of the central banks to guide monetary policy. This is because they will impinge on the banks' ability to control inflation by managing the amount of cryptocurrency in circulation, and hence the total liquidity in the economy would be outside the jurisdiction of the central bank. Buying and selling cryptocurrencies by the central banks to regulate liquidity would also not help since cryptocurrencies are global currencies. Their regulation in one country can affect their circulation and use in other countries and destabilize activities outside the targeted economy.

On similar grounds, the central bank will issue cryptocurrency in line with its actual currency having the same value, but its database will not be public, it will be accessible by limited personnel. By implementing CBDC the role of the Bank as an intermediary will vanish. As in CBDC, each individual will have only one account with the CBDC, the CBDC will have the total balance of each individual with it unlike in the current scenario where each individual has more than one bank account and maintains balance in each bank account. By this RBI can have control over the supply of currency in the country. For instance, if RBI wants people to spend more to increase the flow of money in the economy, then RBI may add an expiry date to it.

Advantages of CBDC: -

1. A CBDC eliminates the third-party risk of events like bank failures or bank runs. Any residual risk that remains in the system rests with the central bank.
2. High cross-border transaction costs can be lowered by reducing the complex distribution systems and increasing jurisdictional cooperation between governments.
3. Removes the cost of implementing a financial structure within a country to bring financial access to the unbanked population.
4. CBDCs can establish a direct connection between consumers and central banks, thus eliminating the need for expensive infrastructure.

Disadvantages of CBDC: -

1. RBI governor Shaktikanta Das has expressed concerns over the risk of frauds in digital currencies, pointing to the need for systems to thwart mala fide attempts. Another risk, of course, is the technological challenge in storing and dealing in such CBDC by retail customers. It depends upon the availability of strong internet connectivity and wider access to technology to store and use CBDCs. There are other pitfalls too. RBI is also concerned that a lower level of technology adoption in developing nations may limit the reach of CBDCs.
2. The financial structure of India could drastically change. How this change would affect household expenses, investments, banking reserves, interest rates, the financial services sector, or the economy is unknown.
3. The effects a switch to CBDC would have on a financial system's stability are unknown. For example, there may not be enough central bank liquidity to facilitate withdraws during a financial crisis.
4. Central banks implement monetary policy to influence inflation, interest rates, lending, and spending, which in turn affects employment rates. Central banks will need to ensure they have the tools they need to positively influence the economy.
5. Privacy is one of the most significant drivers behind cryptocurrency. CBDCs would require an appropriate amount of intrusion by authorities to monitor for financial crimes; monitoring is also important because it supports efforts to combat money laundering and the financing of terrorism.
6. As has been witnessed on several occasions, cryptocurrency has been the target of hackers and thieves. A central bank-issued digital currency would likely attract the same crowd of thieves, so

efforts to prevent system penetration and theft of assets and information would need to be significant.

7. If banks start losing deposits over time, their capacity to provide credit is hampered. Because central banks are unable to lend to the private sector, the influence on the function of bank lending must be carefully considered in the context of the Indian economy.
8. When banks lose considerable amounts of low-cost transaction deposits, their interest margins may be strained, resulting in a rise in lending costs which may impact the Indian economy at large. As a result of the possible costs of disintermediation, it is critical to design and operate CBDC so that demand for CBDC is controllable compared to bank deposits.

Impact on Indian Economy:

A. Quicker Settlement in Stock markets

Major stock exchanges are exploring the potential of blockchain to allow almost immediate stock settlements by reducing transaction time and operational cost. It automates compliance through smart contracts with a greater level of security and transparency.

B. Efficient Payments

Blockchain can improve payment transparency, efficiency, trust, and security as well as reduce the cost for financial services firms and users. Earlier, the payments from one bank to another bank used to take up to a week, with the help of blockchain it is transferred instantly. The use of digital currencies and distributed ledger technologies make payment faster, cheaper, and more convenient.

C. Reduction in Frauds

Today criminals are able to open bank accounts in fake names. They can also pay poor people to open multiple bank accounts and hand over ATM cards. Then the criminals can carry out money laundering and other crimes using these accounts. In a world with CBDCs, that would not be possible. Everyone would have only one account. And all transactions will be visible to the government in real-time.

Conclusion: -

The primary purpose of RBI to issue digital currency as mentioned in its speech is limited to replacing the use of cash as a medium for transactions. However, in my opinion, it has got a lot of potential. In an ideal scenario, CBDC can reduce the dependency on the banking sector and its infrastructure.

Currently, where the bank only acts as an intermediary, after the introduction of CBDC, RBI can build a platform where all the users can store their currency, through which the platform will act as a virtual bank where it can manage the credit flow in the economy with lesser human intervention with the use of an algorithm. As an individual one doesn't keep his/her money in savings account primarily for interest-earning purposes, but for its safety. So CBDC will not give any interest on the currency but can lend money at a lower rate to the borrowers without paying any interest on the deposit.

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