How Crypto Currencies Work

What is the issue?

Thousands of Indians are flocking to these digital assets and pumping in crores of rupees and there comes a need to know about cryptocurrencies before joining them.

What is a cryptocurrency?

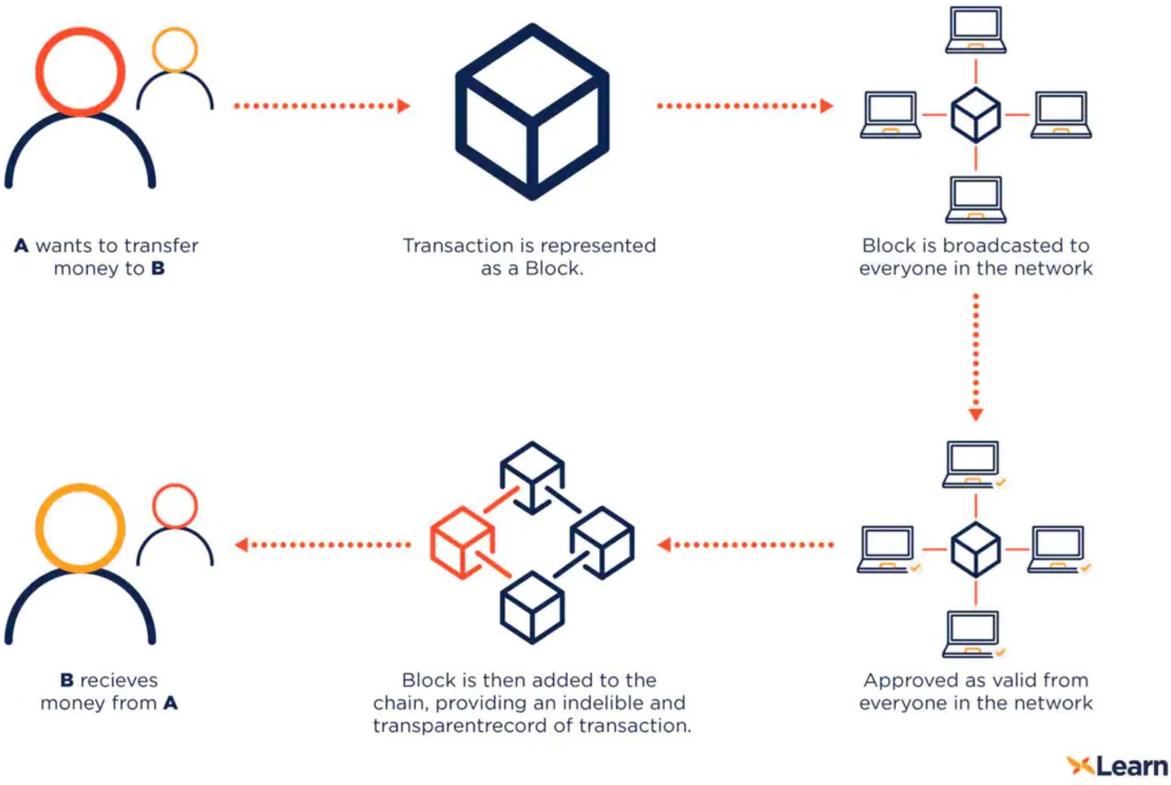
> *Satoshi Nakamoto is said to have conceptualised an accounting system in the aftermath of the 2008 financial crisis which has mooted the idea of blockchain.*

- A cryptocurrency is a medium of exchange, such as the rupee or the US dollar, but is digital in format and uses encryption techniques to both control the creation of monetary units and to verify the exchange of money.
- Bitcoin is the largest in the world according to market capitalisation**,** followed by Ethereum.
- With cryptocurrencies, a chain of private computers (a network) is constantly working towards authenticating the transactions by solving complex cryptographic puzzles.
- For solving the puzzles, these systems are rewarded with cryptocurrencies and this process is called mining.
- A blockchain wallet is used to store the cryptocoins which facilitate smooth exchanges and secure transactions as they are cryptographically signed.

How does cryptocurrency work?

- Cryptocurrency runs on blockchain technology which is simply a digital ledger of transactions.
- This ledger (or database) is distributed across a network of computer systems.
- No single system controls the ledger and instead, a decentralized network of computers keeps a blockchain running and authenticates its

transactions.
- Bitcoin and other cryptocurrencies are essentially codes recorded on a blockchain that gets longer and longer as more people use them.



How Cryptocurrency transaction works

How are cryptocurrencies bought?

- **Buying it from someone** – It usually happens in two ways
  1. An exchange-facilitated transaction
  2. A peer-to-peer transaction
- Cryptocurrency exchanges are platforms that broker the trading of cryptocurrencies for other assets, including digital and fiat currencies.
- They are independent and operate just like stock exchanges do globally.
- Cypto exchanges operating in India include WazirX, CoinDCX, CoinSwitch Kuber, Zebpay, Bitbns, Giottus, etc.
- Peer to peer (P2P) trading is the act of buying and selling cryptocurrencies directly between users without a third party or intermediary.
- **Mining new cryptocoins** - Mining is a process of creating new crypto coins by solving complex mathematical equations.
- The transactions using cryptocurrency is complete only when a “miner”

verifies the transaction as legitimate.
- This verification process requires miners to solve complex equations and those who do that first are paid a fraction of the transaction as a fee for their effort.

How are the cryptos sold for INR?

- The Indian exchanges allow sale of cryptocurrencies in exchange for INR as well.
- But many of the smaller banks that support the transactions do not have the necessary digital infrastructure to handle the volumes of withdrawal.
- The volatility experienced by these virtual currencies and disruption in withdrawal services is a common occurrence.

What are the pros and cons of cryptocurrency?

Pros of cryptocurrency

- Potential for high returns
- Transparency
- No chance of personal information leakage
- Immediate and secure ownership transfer
- Potential diversification
- Instantand 24 hour accessibilty

Cons of cryptocurrency

- Illegal activities can be performed
- Loss risk is high
- Cryptocurrency market is highly volatile
- Poor store of value and limited acceptance
- Difficult to comprehend
- Challenges of market fluctuations

What alternatives are available against volatile cryptocurrencies?

- Stablecoins are a type of cryptocurrency that offer more stability than other cryptos because they are backed by assets.
- Their market value is pegged to some external reference such as the US dollar thus giving it an intrinsic value.
- Stablecoins achieve their price stability via collateralization or through algorithmic mechanisms of buying and selling the reference asset or its derivatives.

- Most of the sovereign governments push for stablecoins such as Tether, USD Coin and Diem (proposed by Facebook's parent company Meta) as it could increase the reach of the fiat currencies in the digital ecosystem.
- Stablecoins attempt to bridge the gap between fiat currencies and cryptocurrencies and there are three categories of stablecoins.
- **Fiat-Collateralized Stablecoins -** These stablecoins use a specific amount of a standard fiat currency, like the US dollar, as collateral to issue crypto coins.
- Other forms of collateral can include precious metals like gold and silver and commodities like oil.
- Tether (USDT) and TrueUSD are popular crypto coins that are backed by dollar deposits.
- **Crypto-collateralized stablecoins -** Here the underlying collateral is another cryptocurrency instead of a tangible commodity or a fiat currency.
- An example of crypto-backed stablecoin is **dai**, which is pegged to the U.S. dollar and runs on the Ethereum blockchain.
- **Algorithmic Stablecoins -** These stablecoins use a computer algorithm to keep the coin's value from fluctuating too much.

What are the risks in stablecoins?

- The credibility of stable coins such as tether has been the subject of controversy because the issuer of the coins may not actually hold fiat currencies against the tether or may not hold them in sufficient quantities.
- The providers promise they have reserves worth 100% of the value of their stablecoins, but that's not quite accurate.
- A large part of the assets are based on commercial paper and is not cash equivalent thereby posing a solvency risk in the event of a sudden collapse in the value of these assets.
- Another issue is the **e-dollarisation** as most stablecoins are likely to be pegged to the US dollar.
- The US might actually see that as an advantage to strengthen the reach of the dollar which in turn disincentivises the regulation of stablecoins.

How can this play out in India?

- Though India may patronize the use of a digital rupee as a legal tender and peg it to Indian rupee, banning other cryptos as asset classes may not be completely feasible as it may delink India from the rest of the world.
- India may need to allow the conversion of other cryptocurrencies into a digital rupee for regulating the same in the Indian market.

- This could bring in the required certainty if the digital rupee is compared to USD in the international market in the same way as the physical rupee

Reference

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