The age of crypto-economics

The Finance Ministry recently issued a statement warning against investing in bitcoin and other cryptocurrencies (CCs). Likening CCs to ‘Ponzi schemes’, it linked them to terror-funding, smuggling, drug-trafficking, and money-laundering. The stern advisory came after three other warnings issued by the Reserve Bank of India.

Two aspects of the bitcoin phenomenon have attracted great interest: the challenge it poses to states and central banks; and the potential of its underlying technology to unleash a new wave of creative destruction.

It would be safe to say that the world’s top central bankers have finally realised the futility of trying to control CCs. They are preparing to join them — by issuing their own Central Bank Digital Currency (CBDCs).

A CBDC is a complex tool whose functionality is still being researched. But there is one flaw endemic to any CBDC: the contradiction between the centralising tendency of a CBDC and the decentralising technology that underpins cryptocurrencies. What economists conveniently forget when discussing CCs such as bitcoin is the trigger for it: distrust of bankers.

The global financial crisis of 2008-09 raised a simple question: what option do people have if banks are not to be trusted? A man (or a group of people) named Satoshi Nakamoto provided an answer: a peer-to-peer, ‘trustless’ electronic cash system based on a technology called blockchain.

In order to be functional, a virtual currency must solve the problem of double spending. Given that anything digital can be copied, how do you prevent someone from spending the same unit of currency twice? Today’s cashless economy tackles this through a centralised ledger maintained by a ‘trusted’ intermediary — often a bank — on its own servers. But as per the definition of the problem, banks can’t be trusted, remember?

Nakamoto solved the double spending problem by designing a decentralised ledger that bundles data about transactions into blocks, timestamps them, and links each new block of transactions with the previous one in an immutable chain of blocks that are copied, authenticated, and updated continuously, and publicly, on thousands of computers — the blockchain.

The blockchain uses economic incentives (payment in the form of bitcoins or other CCs) to motivate members of the network to do the work of validating every transaction. It does away with the bank’s role as an intermediary, and this is what differentiates CCs from (the digital version of) fiat currencies.

Not surprisingly, central banks and states are not pleased to have the rug of the cashless economy — with which they’ve been smothering ordinary citizens — pulled from under their feet by a technology that regards them with disdain.

It has been pointed out that bitcoins, unlike a stock or a bond, are a purely speculative asset untethered to a material basis of value. While this is somewhat true, it doesn’t explain why bitcoins continue to remain attractive as a store of value. A major reason seasoned speculators find bitcoins irresistible is its deflationary nature, which makes it inflation-proof. Since there can only ever be 21 million bitcoins, unlike a fiat currency, it cannot suffer a loss in value due to inflation.

In this regard, cryptocurrencies such as bitcoin may herald the next stage of neo-liberal

economics: the privatisation of currency and disciplining of the state (no more quantitative easing!) by reducing the fiat currency into one of many competing currencies.

In theory, the state still has a trump card: it decides the currency in which taxes are paid. But that may mean little in a scenario where the political apparatus has been captured by finance capital, which is increasingly the norm in democracies where unknown donors contribute astronomical sums to political parties.

Amid all the frenzy over bitcoin's rocketing values, it is easy to forget that it is just one version of one application (cryptocurrency) of a new technology (blockchain). In some ways, the present moment is analogous to the early days of the Internet, when Hotmail was an exciting new discovery and the Internet was synonymous with email.

Coinmarketcap.com, a website that tracks the market capitalisation of cryptocurrencies, lists 1,379 currencies. Away from the hysteria around bitcoin, lesser known cryptocurrencies such as Omisego, TRON, Golem, and Storj are attracting investments that are helping to set up an entire decentralised ecosystem and payments infrastructure on blockchain platforms that could radically transform the way businesses transact with each other.

The fundamental value proposition of the blockchain is that it eliminates the need for trust — a commodity without which exchanges of value (transactions) cannot happen. This means that individuals and businesses can do away with a whole bunch of intermediaries whom they pay for managing trust.

For instance, on Ethereum, a blockchain platform that calls itself "the android of the cryptocurrency world," you can set up an application that enables people to rent out idle storage space on their laptop. Someone who needs cloud storage can pay you directly, instead of paying Amazon, a leading cloud storage intermediary. You could thus monetise a resource that you didn't even know you had. Well, Storj is an application that does precisely that, and it already enjoys a market cap of $298 million. Ethereum, too, is listed on cryptocurrency exchanges, and it is worth $112 billion, not far behind bitcoin's market capitalisation of $259 billion.

Programmable money is another example of a decentralised blockchain-based application. Since digital currencies are software programs, one can program a particular CC such that, say, it cannot be used to buy the product of a company that uses sweat shop labour.

Two domains that would gain immensely from blockchain applications and CCs are Artificial Intelligence and Internet of Things (IoT), since in an IoT world, thousands of devices would need to rapidly and seamlessly transact with each other in real time, without the devices' owners having to dig into their wallets every time.

Given the enormous scope for increased efficiency and cost-saving, it is not inconceivable that in the medium term, the biggest threat to businesses in the finance and digital space will come from the blockchain versions of themselves.

Of course, as happened in the early days of the Internet, some of the claims being made about blockchain are plain silly. It is true that the technology's peer-to-peer orientation renders it more democratic. But it is not about to usher in a socialist paradise. Even the World Wide Web was supposed to be a decentralised, democratic space where everyone was equal. We all know how that turned out.

Clearly, technological innovations cannot substitute for the hard job of reducing socio-economic disparities through political mobilisation. If blockchain is getting traction, it is because it works with,

rather than against, market logic.

It so happens that right now any technology that drives decentralisation also carries some political promise by virtue of challenging the centralising tendency of power. But that is a byproduct, and not to be confused with its intent, which remains the same as with any other IT innovation of recent times: efficiency and profit.

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