Business Analyst, ISSN 0973 - 211X, 41(2), 247-250, ©SRCC

BOOK REVIEW

FROM COWRIE TO CRYPTO – BLOCKCHAIN AND THE FUTURE OF MONEY

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Westland Publishers Private Limited, 2020.

ISBN: 9789389152173

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The book discusses cryptocurrencies in general and in the Indian context in particular. Cryptocurrencies are digital representation of monetary value, assets that lie entirely in the digital space and use cryptography for security purposes. A preliminary inquiry could be that there is already a huge number of transactions taking place in the digital space with a number of e-wallets and instant payment applications. Why then the need for a separate digital currency?

A deeper concern is that cryptocurrencies do not even qualify as money. Their prices are volatile since they are backed neither by any asset nor do they carry with them the liability of any central bank, hence failing on the *store-of-value* front. They are not a *medium-of-exchange* because of being new and less accepted compared to traditional currencies or modes of payment. Finally, the prices of commodities aren't quoted in cryptocurrencies, rather in the relevant fiat currency which in turn, could be used to quote value in cryptocurrencies based on the prevalent exchange rate, therefore accounting for failure as a *unit-of-account*. Raghavan briefly discusses these three aspects through a story-like description of the history of money which keeps the reader, even a student of Economics, for whom it might be repetitive, interested.

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Why then, are cryptocurrencies gaining popularity? Apparently, it's not enough that they are digital. As a matter of fact, their usefulness is derived from the technology that they are based on, the reason why Raghavan devotes the first chapter of the book to the blockchain and the distributed ledger technology (DLT) underpinning these currencies. The blockchain uses double cryptography – first to authenticate each transaction through identity verification and consensus of nodes or parties to that transaction and second to reach a consensus on the *order* of transactions or blocks. The decryption of any given block relies on the previous block in the chain. Blockchain is just one kind of DLT in that the latter doesn't require such a chain. The apparent interchangeability with which Raghavan uses DLT and blockchain in the book blurs this distinction for the reader.

Now, with a technology like DLT or blockchain, there is no need for a central authority or third party to authenticate these transactions. Currencies based on this technology have the advantages of the ability to send money quickly, the security of cryptography and the freedom to easily transmit the funds across borders. Moreover, nodes only need a combination of a public key, a pseudonym in most cases and a private key to authenticate their identity. The identity of the user behind the pseudonym is immaterial. This raises susceptibility to money laundering and funding illicit and terror activities using cryptocurrencies that can be exchanged for cash. People also hold digital currencies for speculative purposes since they are volatile and not pegged to stable assets. And their existence in the digital space will always carry the risk of attack by hackers who could gain control of 51% votes to hack the consensus mechanism. Also, the computing power required in 'mining' cryptocurrencies is immense.

For these reasons, RBI has banned banks and financial institutions from providing services to entities dealing in cryptocurrencies. The Government of India has come up with the draft Banning of Cryptocurrency and Regulation of Official Digital Currency Bill, 2019 which seeks to prohibit mining, holding, selling, trade, issuance, disposal or use of cryptocurrency in the country. But the government has welcomed the use of blockchain technology for it carries potential applications in land record-keeping, smart contracts, consortium banking etc. Consortium banking is used to finance large infrastructure projects which a single bank cannot fund. There is also the lack of effective sharing of information among banks regarding the credit history of the borrower. Now, with a blockchain based smart contract, funds will automatically be transferred as soon as there is a consensus among the banks regarding information. The reason for sharing this example from Raghavan lies in a potential research question: can technology correct the systemic problems? On a related note, can technology make up for the lack of effective institutions? What does the experience of countries ranking high on transparency indices tell us? These are questions worth pursuing.

The most comprehensive part of the book is the discussion on regulatory implications of cryptocurrencies. Is it wise to exercise the kind of ban that RBI has? Raghavan notes that this ban is on provision of financial services to entities dealing in cryptocurrencies, not on the dealing per se. Experts suggest that with the ban placed on formal banking channels, the market would just be pushed under-ground and cryptocurrencies would be exchanged for cash. Cash already provides anonymity to the user, which would be compounded by exchange for cryptocurrencies, leading to illicit financing. And so far, only RBI has come with precise regulation. Regulation would be warranted in other areas such as taxation of income from cryptocurrencies, rules regarding cross-border transactions in cryptocurrencies and in the event that central banks might come up with their own versions of digital currencies in response to, say, the fall in their seigniorage revenue stream.

Raghavan has tried to deal with these issues quite comprehensively in a short book. Now there are a few concerns that the reader may feel while going through the book. Many concepts have been introduced near the beginning of the book which become clear only as one progresses, and as the context reveals itself. Patience is advised if one feels that a lot of jargon has been thrown at once. References are given at the end of each chapter without footnotes to ensure continuity in reading, which is a good call. The major flaw is that there is no index of jargon appearing in the text, which leads to difficulty while attempting to write a book review. All in all, at the risk of sounding repetitive, this is a one of the first comprehensive summary on the topic of cryptocurrencies and is hence recommended.