

THE SOCIO-ECONOMIC IMPLICATIONS OF BLOCKCHAIN-BASED SETTLEMENT PLATFORMS AND THE FUTURE OF CRYPTOCURRENCIES

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Introduction

Our current economy is primarily reliant on digital payment methods, with Cryptocurrencies being the most recent addition to this group. Cryptocurrency is a type of digital money used in electronic payment systems that do not require government endorsement or control, nor does it require the use of an intermediary such as a bank to complete transactions. Users of the system, on the other hand, validate payments on their own.

There were more than 5,100 different cryptocurrencies worth roughly \$231 billion US dollars in March 2020 (wirexshares.com, 2021), and simply to highlight how quickly they expand, Bitcoin increased in value by about 500 percent in just 200 days (wirexshares.com, 2021). The advancement and increased popularity of cryptocurrencies has displayed that it could be the next big step in solving the dictatorship of centralized money and pose to solve several economic and social problems. On the other hand, it has been proven to be used in illicit activities like money laundering and can be a very bad investment for a number of reasons.

This report aims to analyze the impact of Cryptocurrencies thus far and investigate the ways in which they will shape the future of Society and the Economy, the Environment, the impact that they will have on small businesses, how various government systems are adapting to them, and how they will overall change the use of global currencies in the future markets.

Issue 1: Economic effects of blockchain-based settlement platforms on the markets of the world

Money has three basic functions in microeconomics: it acts as a means of transactional exchange, a unit of account, and a store of value. The ability of cryptocurrencies to perform those activities in comparison to previously existing fiat currencies, as well as their integration

with commonly used payment systems, will undoubtedly play a significant role in determining their future worth and relevance.

Cryptocurrencies will have an impact on the economy only after we fully understand how they are valued and how they can be used as fiat currencies to promote proper exchange using them. This has already seen implementation in El Salvador, which adopted bitcoin as a legal tender, saying it will help to give access to financial services to people with no bank account. This applies as there are many traditional banking fees involving fiat currencies (e.g. Minimum balance fees, account maintenance fees), to which cryptocurrency users are not subject, allowing for usage by many more people, especially those residing in less financially prosperous areas.

Not to mention, Cryptocurrencies support financial inclusion in poor countries, not just because of the fact they can help those without a bank account, but also because of increased transparency during transactions, in a way showing that the lack of regulation from an intermediary makes transactions more democratic. To understand this, we have to understand a little bit of the technology behind cryptocurrencies like Bitcoin. The 'Blockchain' that is talked about with Bitcoin refers to a public ledger, where the 'blocks' on which transactions are recorded are stored. These blocks can be accessed to show transactions that might have taken place at a certain time, where they came from, and where they will go, hence providing an increased layer of transparency.

We can also see the local usage of cryptocurrencies as a means of transaction through local stores like Ardor 2.1, a restaurant and bar in Connaught Place, New Delhi, which offers a 'Digital Thali', offered at a 20% discount if the customer decides to pay in Bitcoin (curlytales.com, 2021), a way to not only push towards more usage of digital currencies but also see the usage of bitcoin in everyday life. Thus far, the restaurant has seen hundreds of orders for this 'Digital Thali'.

Furthermore, some central banks have lately begun to investigate the use of cryptocurrency and blockchain technology for retail payments in large-scale operations, recognizing the future potential of these technologies. For example, there has been the introduction of Central Bank Digital Currencies (CBDC), which are just cryptocurrencies created and issued by a central bank. The People's Bank of China, for example, is working on a nationwide digital currency based on blockchain technology, while the Bank of Canada and the Monetary Authority of Singapore are both investigating differently through interbank payment systems, and the Deutsche Bundesbank has created a prototype for blockchain-based financial asset settlement (bis.org, Sept. 2018).

However, this does not mean that all central banks are necessarily behind the blockchain movement. From an opposite National perspective, we can see even the Indian government is set

to take measures against cryptocurrencies. For example, on the 19th of November, RBI governor Shaktikanta Das said the bank had "serious concerns from the point of view of macro-economic and financial stability", and that blockchain technology can thrive in the world without other cryptocurrencies. In an attempt to solve this, in December 2022, India introduced the 'e-rupi', a CBDC introduced to allow cashless payment solutions for COVID-19 vaccination in India.

Additionally, in 2022, the Finance Minister introduced a 30% tax on profits made by trading Cryptocurrencies after April 1, 2022, which would make it semi-legal, and proves the interest in Cryptocurrencies.

However, problems arise in the volatility that Cryptocurrencies are affected by. Supply and demand influence the prices of most commodities more than any other factor, and a Cryptocurrency like Bitcoin has its market value determined by how many coins are in circulation and how much people are paying to purchase these coins. For example, Bitcoin is limited to about 19 million coins, and the closer the supply in circulation gets to this 19 million (propagated by those mining it), the higher prices are likely to climb. There have been instances where major Cryptocurrencies like Bitcoin dropped 30% of their value in a single day (investopedia.com, 2022), and with many people holding it as an investment, Cryptocurrencies volatility could pose a problem to achieving widespread adoption. The fact of the matter is, regular fiat currencies do not face such threats, and that is what gives not only those holding it as an investment, but also those using it for daily exchange a certain level of trust in the system, as they can rest easy knowing that they will not lose a lot of their hard-earned money just because the market is having a bad day.

This is due to another problem with Cryptocurrencies: they are not intrinsically valuable. There is nothing backing Cryptocurrencies' value, and it is not pinned against the value of anything else. We can assign oil a value based on both how it is pinned against the US dollar and the demand for it at the time. Oil is pinned against the US Dollar, a treasury-issued and regulated currency. Never did the U.S. Treasury announce that they would be willing to exchange Bitcoin for a certain amount of money. But without anything intrinsically valuable backing them up, Cryptocurrencies' market value is based entirely on speculation.

This only strengthens the argument that cryptocurrencies are insufficient to replace massive retail payment networks, such as bank-issued credit cards and fiat currencies. In addition, even in countries where cryptocurrencies have seen widespread implementation as a payment network, they have been conceived as a poor decision by the general public. This is vividly shown in a poll conducted by the Central American University in El Salvador, where 67.9% of the 1,281 respondents polled opposed the use of bitcoin as legal money.

Issue 2: Social effects of blockchain-based settlement platforms on the markets of the world

Apart from playing an institutional role in the economy, money plays a similarly important role regarding the changes it brings to society. Cryptocurrencies ensure both anonymous transactions, as well as verifiable transactions during monetary exchange.

Vitalik Buterin, the co-founder of Ethereum, the second-largest Cryptocurrency, gave \$1 billion in cryptocurrency to the Covid-Crypto Relief Fund in India earlier this year (techcrunch.com, 2021). We know all for sure of this because his public, blockchain-backed digital wallet key (which gives a 100% guarantee of ownership, showed the transaction. Imagine being able to hold governments accountable and track disaster relief payments, tax payments, and aid distribution efforts with practically perfect transparency.

With everything being logged and made public, blockchain may be able to assist reveal what is generally hidden. Something like this could be used in favour of the citizens of a country, as they will get the opportunity to see where exactly their money is going, something that the government might not want, but is still socially beneficial.

We can see a negative social aspect, however, when it comes to the mining of cryptocurrencies. For example, mining bitcoin on a huge scale consumes absurd amounts of electric energy, with Asian countries currently providing about 80% of the hash rate (combined computing power for mining and processing Bitcoins). As things stand, China is in the lead, accounting for 75% of Bitcoin mining (CNBC.com, 2021). Because of this major usage of power, mining cryptocurrencies has a great environmental flaw in terms of its negative impacts on the environment.

Because cryptocurrencies are very secure and are considerably safer to transfer without having a registered location if wanted, it is very easy for cryptocurrencies to be used to transfer money for potentially illicit activities. Numerous examples can be seen on the dark web. During the time of the dark web drug market 'The Silk Road', bitcoin was the primary method of transaction for purchasing hitmen and information.

Cryptocurrencies are somewhat of an unregulated market, and because there is no government or overall system to dictate and manage, it is very likely for those inexperienced and not fully understanding of the situation to get scammed by another. An example of this would be the Squid Game coin, which capitalized on the success of the Netflix original show "Squid Game" to attract investors, pumping the coin to thousands of dollars before the creators pulled the rug on the whole project, likely capitalizing on the huge success of the coin, while all investors found out that all their money had been lost.

The Future of Cryptocurrencies:

Even after weighing the positives and negatives of blockchain-based settlement platforms, it would be rather impossible to predict where cryptocurrencies will be in the future. However, enough is known to make a general prediction on where they may be.

To begin with, this year (2022) itself, in July, we saw the biggest player, Bitcoin, reach -66.7% from its all time high, one of the biggest drops it had since 2011. 2022 also brought doubts to crypto holders as it brought one of, if not the worst, crash in crypto history. Holders and spectators alike bore witness to the crash of LUNA, which has since lost more than all its value, going from being worth nearly \$120, to being valued at several fractions of a dollar. This was triggered by a “financial attack” on the stablecoin Terra (stablecoins mentioned previously in the paper). The crash of Terra led to the subsequent crash of LUNA, resulting in panic selling from normal holders of the cryptocurrency, only driving the price deeper and deeper into the ground. Stablecoins were created with the intention to be stable, but with this happening, it questions the legitimacy of one of the most crucial safety nets that cryptocurrencies previously had.

Another event that calls to question the ease of implementation of cryptocurrencies would be the collapse of FTX, which was, at one point, one of the worlds largest Cryptocurrency Exchanges. On November 11th, 2022, after an apparent hack drained \$600 million from user’s accounts, FTX filed for Chapter 11 Bankruptcy. This was due to a number of reasons, however, in summary, its crash was attributed to financial mismanagement. According to the new CEO, John J. Ray III, FTX did not maintain "appropriate books or records, or security controls, with respect to its digital assets."

Additionally, it has been seen that cryptocurrencies are incredibly cyclical investments, with them even over-reacting to macroeconomic events, far more than stock markets. For example, stock markets saw a dip in inflation considering the invasion of Ukraine by Russia, however, during this period, Cryptocurrencies fell back much faster than the S&P 500. This only pushed cryptocurrencies further into a bear market, from which it is still unable to recover.

Blockchain-based settlement platforms are a great example of a fascinating technology that has not yet found its ground in society. Although the intricate mechanism behind cryptocurrencies seems incredibly appealing, both to the layman and the seasoned enthusiast, as things stand, there is no definitive use for cryptocurrencies.

This is obviously not to say that we will not see cryptocurrencies finding a home of course. The Gaming Market was valued at USD 198.40 billion in 2021, and with the rise of play-to-earn gaming and various blockchain games, it is clear that blockchain technology will have a part to play in the future of the gaming industry.

There is a possibility that cryptocurrencies will follow a similar path to the internet, where it can be generally seen that this is currently a “bubble”, which hundreds of millions of dollars are being put into, which will eventually burst. However, even after it might burst, there is a likelihood that blockchain-based settlement platforms will find their place as a technology of the future.

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