Are Crypto-Currencies Worth the Time and Money?

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Abstract

Crypto-currencies are decentralized assets functioning on the block chain network that have challenged the very existence of the present monetary system. Every change or revolution brought about by technological advancements bring along with them, very significant questions. These questions often revolve around whether these changes are worth the time and money. Crypto-Currencies are at an uncertain stage where people as well as the governments are apprehensive about the impact this 'Chain' Reaction is going to have on our daily lives. Events like these leave us with the choice of either resisting the change or accepting them. The primary objective of Crypto-currencies was to establish a framework which could replace the present monetary system but there is still uncertainty as to how it would achieve its goal without any concrete backing and regulation. This article will review why an individual, an organization or a government would like to adopt or shun Crypto-Currencies keeping in mind the uncontrollable currency circulation, the effect of inflation on these virtual currencies and the time and money that they are able to save.

Keywords: *Crypto-currencies, Revolution, Resistance or Acceptance of Change, Benefits or Downfall, Regulation, Inflation effect on Crypto-currencies*

[1] Introduction to Crypto-currencies:

(Smith, 2017) Crypto-currencies are decentralized assets functioning on the block chain network, that exclude middlemen from the transaction and promote faster transactional speed with complete transparency. The main focus of Satoshi Nakamoto when he launched Bitcoin in 2009 was to eradicate the dependency on money hungry financial institutions and give people a system that they could rely upon. “At their core, crypto-currencies are a disruption of money. They decouple money from state power via decentralization. They decouple money from social trust via transparency and distributed validation.”

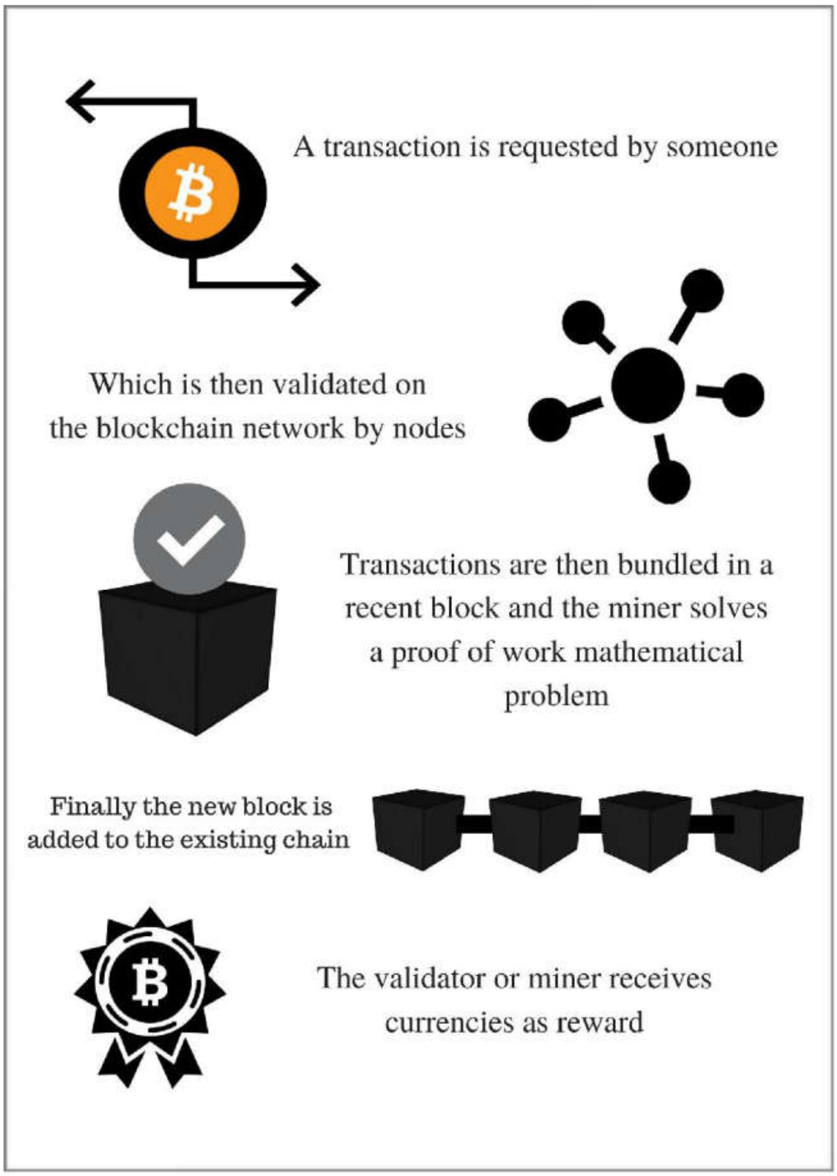

Fig 1: A chart depicting how mining works (Source: Self)

(Investopedia, 2014) The whole crypto-journey kick started with the evolution of Bitcoin and has been developing ever since. After the success of bitcoin as a peer to peer network, a lot of better technology oriented crypto-currencies started evolving, they were called Alt-coins. Alt-coins stands for alternative coins, that tried imitating the concept of bitcoin. Few examples of Alt-coins include Ethereum, Litecoin, Ripple, Stellar etc.

The miners or the people responsible to validate transactions on the block chain network, get these currencies as reward when they create a block and solve a mathematical problem and this is how crypto-currency is circulated in the system. The supply of these assets are limited and cannot be altered like the fiat money's supply, but if all the miners are willing to change the algorithm then it might be possible.

[2] Why Crypto-currencies are not worth the money.

2.1 Lack of concrete backing by the Government

Bitcoin is failing, not in terms of its' value but in terms of its' price, that has been constantly growing in the last couple of years and once stood as high as $20,000 US Dollars per coin. It's use as a currency is in decline and that makes its' rapid increase indeed a puzzle.

Over the last few years, the news of organizations accepting Bitcoins have become lesser and lesser. Organizations that previously accepted the currency have started to reject them for the simple reason that they scarcely received any payment in the form of Crypto-currencies. How is it that even though the adoption of Crypto-currencies is declining, their value continues to appreciate? It's because more and more people are starting to preach the concept of Bitcoins as a "store of value".

(Lehdonvirta, 2017) "In economics, a "store of value" is usually defined along the lines of "an item that people can use to transfer purchasing power from the present to the future". In simple terms, it's somewhere safe to invest your wealth that won't lose its worth over time."

An apple can be bartered for another good or service while it is still fresh but that value will diminish as time passes and the apple starts to rot. This feature of the apple makes it a bad store of value. To ensure that your purchasing power does not diminish over-time, you exchange the apple with money. Money is easy to convert into another purchase and is a common asset that every supplier would demand as opposed to apples that only a few might want.

What's great about Bitcoin and why it is considered as an asset of value.

(Lehdonvirta, 2017) "Bitcoin does share many of these attributes of a good store of value. It also offers potentially high levels of financial privacy, somewhat similarly to the offshore banking system. This is an important attribute of a store of value for some people, although it also creates a lack of accountability and the potential for tax evasion."

However, it is utmost important that a "store of value" is valuable. Metals like Gold and Silver are valuable because they can be used in many industries and for jewelry. Although their prices fluctuate, they can never be zero because there will always be a buyer that would accept these metals for some reason or the other for its usefulness as a metal. Similarly bonds that are issued by governments generate interest which makes them valuable. Pounds and Dollars are valuable because they are accepted widely when compared to a Vietnamese Dong (1 USD = 22675 VD).

Bitcoin has no physical presence, no use as an ornament and does it not generate any revenue in terms of interest. It was designed to act as a world-wide accepted currency that would promote transaction speed and transparent transactions, but that isn't the case lately since most organizations are rejecting its' adoption. The only value that Bitcoin has comes with the hope that someday down the line another buyer would be willing to pay more than what they had bought it for, this one of the reasons why people are willing to pay a huge amount to acquire one. When the market reaches a point where the amount of people who accept Bitcoins become less there is nothing to prevent the value of Bitcoins to fall close to nothing.

The Beanie Babies Fiasco

(Lehdonvirta, 2017) "The idea that Bitcoin is valuable because it's a store of value is upside down. In reality, something becomes a store of value because it's valuable. In the 1990s, people started to trade Beanie Babies on eBay. Prices of these limited-edition plush toys rose to thousands of dollars, and by 1997 they made up 6.6% of the entire site's transaction volume. Some people invested their life savings into Beanie Babies, fully expecting their value to be preserved and more. But eventually people came to their senses and the market bombed. Beanie Babies are useful as toys and collectables, but that doesn't justify thousand-dollar valuations." When "Beanie Babies" is replaced with "Bitcoin" you will see that the scenario is somewhat the same. It is imperative for Bitcoin to truly function as a store of value that it first gains acceptance as a currency."

2.2 Uncontrollable Currency Circulation

The main reason behind the evolution of bitcoins during the 2008 financial crisis was the breakdown of trust, when people acclaimed that they no longer trust financial institutions.

(Ammous, 2017) "A professor at Lebanese American University said that the most important thing that bitcoin offers is a new form of sound money outside the control of any authority or government in the world which is something very important for the world economy. Bitcoin is hard money as opposed to easy money."

(Ammous, 2017) "Easy money refers to the money whose supply is not limited and can be increased easily. For example, if copper is used as money then it is very easy for the copper miners to mine more, meet the excessive demand and bring the prices back down, which is not in the case of gold, whose supply is limited and though the demand is more, the supply remains fixed. The limited supply of it keeps the price either constant or increases it, simple economics. Thus, gold is called as hard money."

After talking about price mechanism and market equilibrium, it is now possible to compare bitcoins to gold. Bitcoin's supply is limited to 21 million, which means at anytime, no one can mine more than that specific limit. Like the central banks control the monetary system and the flow of money in an economy and they cannot do injustice to it because it would finally affect the value of money and thus every individual, similarly the supply of bitcoins can only be controlled by the miners. If they wish to mine more than 21 million then, there needs a change in the algorithm which needs to be supported by all these node holders.

2.3 Comparison of Crypto-currencies with the Barter System: Are we going back in time?

What is peer to peer, has no central monetary authority regulating it and is completely dependent on needs and wants of people? It's is not Bitcoin or the Block chain network. It is the Barter System. Are we going back in time? Is the world shifting back to the traditional exchange methodologies? If yes, then they cannot. Like it is already known, Barter prevailed when there lacked a system which decided the value of goods or could print physical money and tax people's savings. Coincidence of wants was always a problem and also the barter transactions couldn't be taxed by any central body. The people decided the value of goods and exchanged it with something they wanted. But, were they fair in quantifying it?

When it comes to bitcoins or any other crypto currency, it runs on a peer to peer network with the monetary authority having exactly zero role in its flow and circulation. When they cannot control and monitor it, they cannot tax it. The supply and demand of the crypto-currencies decides their value and thus can only be influenced by people.

And a currency cannot function in the above stated format, for it to be a good medium of exchange it has to be capped and monitored. Thus, barter has failed and so will the crypto-assets, cannot call them currencies any further.

2.4 Effect of Inflation on virtual currencies:

It is very important to remember that inflation is not a bad thing at all. Inflation of over 10-12% could be harmful but about 2% is fine and often even desirable. Why would it be healthy for an economy to have the prices going up? It encourages people to spend more today and when people spend more today, small and medium businesses start to make money and when they start to make more money they start to get to pay more wages out to their workers and then the workers get to spend more and the loop continues to go smoothly if there is a steady rate of inflation. It encourages people to save less and spend more while increasing GDP, especially in a consumption driven economy.

In the long term, Bitcoin is going to be a deflationary asset (as of now it is an inflationary asset) but as and when more bitcoins are mined, around 2030-35 its' going to be a deflationary assets and that's not healthy for an economy; its' nature of being limited 21 million units makes it an unlikely candidate to replace fiat currency.

2.5 Monetary Policies such as Interest Rates can not be Implemented

Monetary policies are a very important part of how an economy is able to function without hitches. Interest rates are a crucial way of exercising control over the policies and the money flow in an economy. When the government has control over the amount of money in circulation, it can increase or decrease the flow of money. One may argue that this is something that an economy that is left alone can adjust for itself, i.e., the market decides the interest rates and accordingly, the flow of currency in an economy. Although the argument is completely true, what many do not realize is that this adjustment of the interest rates by market factors does not happen instantly but over time. Where as, if the government were in control of the flow of money it would effectively be able to predict the yield curve and act accordingly to ensure that the country does not move into recession.

[3] How can these crypto currencies prove to better than money?

3.1 Cost and Speed of the transactions done through the crypto currencies when compared to fiat money

Time and Cost are the two important factors weighed by any financial institution when it comes to processing any transaction. The transaction is recorded within a few seconds when it comes to traditional banking methods but the settlement time takes days. While the wire transfer is the fastest of all, it is the most expensive medium too.

When it comes to bitcoin, the settlement time is only 10-120 minutes and the cost is comparatively very low. Banks will now be able to save more than 50-60% cost, if they adopt bitcoins.

(Kreder, 2017) Though bitcoin was the first entrant in the crypto-market and thus has significantly gained value, other crypto-currencies like ethereum, ripple, stellar etc. (called Alt-coins) have promised a better technology and is showing a good momentum in their prices with faster speed and lesser cost per transaction. Thus bitcoin and alt coins can act as a good substitute of money and prove to be beneficial in long run.

METHOD	TIME	COST
Cheque	3-7 days	$15-20
Credit/Debit Card	2-3 days	$0.25 & 2-3%
ACH	2-3 days	$1.96
Wire Transfer	1-5 days	$35-75
Bitcoin	10-120 minutes	$3-7
Ethereum	0.5-2 minutes	$0.007-0.1

Table 1. Shows the amount of time and cost that traditional methods take compared to Crypto-currencies (Source: https://blog.gridplus.io/money-vs-cryptocurrency-the-real-costs-part-1-33c09dfea671)

3.2 Control by the users and enhancement of their security

(IDRBT, 2017) The reason that Bitcoin took off right after the 2008 Financial Crisis, is because people had lost their faith in the financial systems. The Housing Bubble proved to the people that their money was not safe with the banks and the government and just in 2009 we saw the paper by Mr. Nakamoto being published. Bitcoin is taking off as a currency because it is not regulated by anyone. The users can choose to stay private while transacting over the crypto-currency network, this helps them to stay unknown and thus avoids anonymity theft. Since the block-chain transactions cannot be reversed, it eliminates the chances of fraud and duplicity. The nodes on the network ensures that the same money isn't spent twice and thus makes it more reliable.

FACTORS	PHYSICAL CURRENCY	DIGITAL CURRENCY	VIRTUAL CURRENCY
Cost of Generating	High	Low	High
Security	Very Low	Depends on Cyber Infrastructure	High
Anonymity	Low	Low	Very High
Liquidity	Very High	High	Low
Regulation	High	High	Unregulated
Usage	Highest	Lower	Lowest
Inflation	Affected by it	Affected by it	Unaffected by it

[4] CONCLUSION:

This article explores both the positives and negatives of having crypto-currencies replace money as a medium of exchange. Though, there are more negatives than positives, it would be hard to say that they outweigh the them because a world-wide, regulated adoption might prove to be beneficial in the long run. However, it must be kept in mind that the elimination of any negative factor in the Bitcoin system will conversely affect the positives as well. Any economy needs a shift from real money to digital money and then to a virtual currency. The global technical infrastructure isn't strong enough to take the load of this virtual network as of now. But advancements in computing and network integration systems can help eliminate the challenges in the near future.

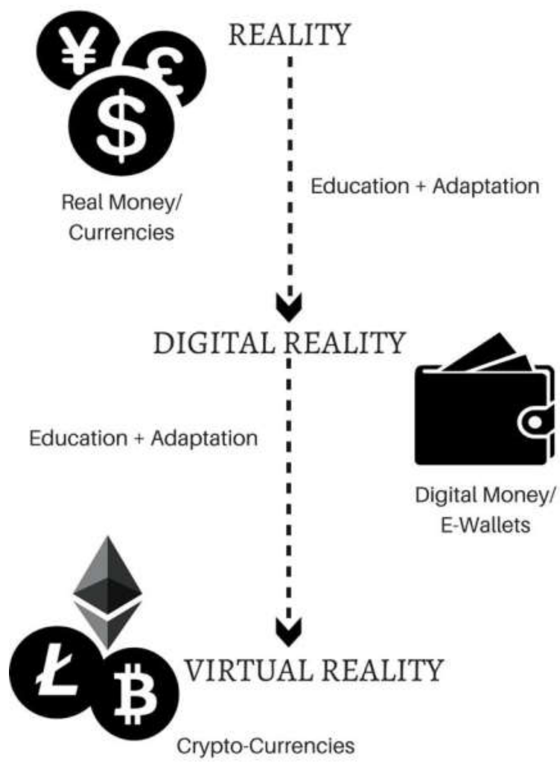

Fig 2. Evolution of forms of currency (Source: Self)

In the end, it is important to understand that there is one thing crypto-currencies can buy that money can not and that commodity is most valuable to people of every generation. **Time.**

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