

Should Cryptocurrency replaces the dollar

Nicholas Robertson

Old Dominion University

IDS 300W

Professor Patricia Oliver

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Abstract

This paper takes a look at cryptocurrency and asks the question of whether or not it could work as a universal form of currency in the United States. It looks at the finer details of how it would affect certain disciplines like earth science, political science, economics and sociology. The effects that cryptocurrency had on these disciplines were mainly negative and as for public perception, it was mainly received with negative connotation as many people and organizations consider cryptocurrency to be one big Ponzi scheme after another. What I found in my research is that cryptocurrency, in its current state, is an unstable and risky venture that causes more problems than good and should not be taken into consideration to replace any form of standardized currency.

Cryptocurrency introduction

Cryptocurrency is a somewhat new and interesting form of currency, known as digital currency. It is seen as a more privatized and safer option for banking and holding money, because of the use of encryption, the use of algorithmic numbering that locks/hides personal information from prying eyes, and personal ownership. Cryptocurrency is not managed by any banks or governmental agencies, but instead through a process called the blockchain. The blockchain is an electronic sender that distributes all sorts of cryptocurrencies from user to user for a fee. Thanks to this feeling of ownership over their money, people started to take an interest in this niche practice. So much so that some people tend to only use it to conduct their business on online store fronts. So taking this into account, people are starting to praise and promote cryptocurrency as the next evolution for all currencies around the world, but can and should that really happen? Should cryptocurrency become the standard form of currency used in America and replace the usd? In this paper we will discuss how cryptocurrency impacts multiple disciplines like earth science, political science, economics and sociology to find out if cryptocurrency is the right step to take.

Effects on the environment

The impact that cryptocurrency has on the environment and on the energy grid is nothing to overlook. It is said that crypto mining (which is a process of digital mining for currency by using powerful computers) “accounts for nearly 5 gigawatts-or about 1% of the world's energy use” (Kamshad Mohsin, 2021,p.3&4). Keep in mind that cryptocurrency is still a niche form of currency that not everyone uses, with CNBC estimating that only 21% out of 1,000 adults in America have used crypto. This is important to note, considering the fact that if cryptocurrency

were to be fully implemented into the American economy alone, an even larger percentage of the population would start to use it for their everyday lives, which would mean even more energy would be needed to compensate for the influx of people. On the topic of energy consumption, cryptocurrency is also responsible for a large amount of CO2 emissions as well. If we take a look back at 2017 it was estimated that crypto mining “was accountable for the emission of 69 million metric tonnes of CO2 in 2017.” (Egiyi, Modesta Amaka & Ofoegby, Grace Nyereugwu, 2020, p.6). Obviously this is a huge issue that not only affects America, but the rest of the world as a whole. As CO2 emissions caused by the burning of fossil fuels is the number one contributor to global warming. Ultimately we are a planet that is quickly running out of energy and resources to provide for ourselves, and with crypto mining as it stands right now, it only exacerbates the issues even more than it currently already is. But that's not to say that hope is all lost, in fact it just takes time to find an alternative. Currently there are companies working on a solution to the energy consumption problem that cryptocurrency is facing right now. While these solutions are being developed, at the moment it's too early to say if their efforts are even worth it, as the energy that these alternative cryptocurrencies require is still massive in the long run. In all honesty this entire process would need some form of government intervention to step in and pour money into research projects to figure out the best solutions to the energy situation.

Government intervention

As stated in the last two paragraphs, cryptocurrency is niche, but it is on the rise in popularity around the world, and with more people keeping an eye on it, it's only a matter of time before the government steps in. At the time of me writing this, there is no one standard form of cryptocurrency. In fact, according to exploding topics.com there are 9,314 active

cryptocurrencies out there at the moment, with about 300 million active users around the world. Meaning that anyone from anywhere can start promoting their cryptocurrency and trying to pass it off as the next great thing. Only for the promoters to scam the people backing their coins and run off with all of the money before anyone knows the creators intentions. This issue doesn't just persist in first world countries, it is a global issue as it extends to even third world countries as well. For instance it was claimed that "RBI, the central bank of India regularly passed notices to warn people about cryptocurrencies being a Ponzi scheme." (Gourang Aggarwal et al., 2019, p.4). For most people interested in the idea of investing their money into crypto, this can cause a general lack of trust and paranoia, as the concept of cryptocurrency to them can be seen as nothing more than a pyramid scheme. To give a current example, FTX, the biggest crypto exchange in the world just had a crash on November 11, 2022. The crash was so big that it could potentially spell death for the entire cryptocurrency markets, as businesses who invested into this exchange ended up losing billions of dollars during the aftermath. The whole scenario screamed unprofessional and it is just one of the many different crypto based operations out there that has crashed after it's inception. So how should the government react to this and how could they make a comprehensive coin that won't crash? First of all concepts like new forms of currencies that people are using, tend to go under the radar and go completely unnoticed by government organizations. This can lead them to take no action on the situation until the problem becomes big enough for them to take notice and do something. Problem is, this could take years until something is done and during that time, tons of people invested in this activity will be scammed out of their money. This is an issue expressed by many others and out of all of the different options available, the best one comes from the Center for New American security as they "recommends that regulators should expand outreach to financial technology firms and

developers to facilitate information flow as new technologies are developed.” (Steven M. Ziegler, 2018, p.35). Keeping agencies informed on things like this can help with response times and solutions that can be implemented before too many people are affected by it. The solution to the main problem of cryptocurrency would be to make a national cryptocurrency, that has some sort of digital patton or seal, that verifies its authenticity and signifies that this specific cryptocurrency is the only verified cryptocurrency issued out by the government. Think of it as a concept similar to counterfeited money and how there are key differences that distinguish counterfeit money from real money. The blockchain running the distribution of verified cryptocurrencies, can be alerted or flagged when it detects any unverified cryptocurrency and stops the transaction from taking place before it is finalized. Afterwards the transaction can be traced back to the individuals who tried to move this unregulated cryptocurrency to their wallet, where their wallets can be penalized and locked, pending an investigation for counterfeiting. In order for this to work though there needs to be announcements made to signify the change taking place. Laws, bills and regulations should be passed as well to regulate the amount of energy that these cryptocurrencies should be allowed to take in order to cut down on the amount of greenhouse gasses they produce. Along with price regulations, in order to determine how much these coins are worth within the economy.

Economic Solutions

Getting into the economics of cryptocurrency is pretty tricky and it would not only be the most important aspect of cryptocurrency that the government would need to get a grip on, but it would also most likely be the first topic of discussion on the implementation of cryptocurrency. As it currently stands there is no one official price for cryptocurrency. As I mentioned before, the

current state of cryptocurrency is a complete mess and there isn't a single cryptocurrency out there that is seen as the one true cryptocurrency. So in essence you tend to have thousands of these cryptocurrencies out there that may have a price value of maybe a few cents if not less. There might be a handful of cryptocurrencies out there like bitcoin that is worth \$16,000 usd per coin and has the tendency to rise exponentially or fall dramatically in value by the day. You might be asking how does this make any sense, should it be all the same price or roughly the same price as each other? Well no they don't, because cryptocurrency works very similarly to a stock, which means the more money that people put in a specific crypto, the more that crypto tends to be worth. Crypto is not strong like the U.S. dollar meaning that a cryptocoin's value will fluctuate without warning, unlike the value of one U.S. dollar for instance. Where the value of one usd will stay one dollar for years with no change. The only thing that changes over time is inflation rates and how much that dollar can get you in the future. The next question would be, what should the government do to keep a standard cryptocurrency strong and not volatile? Well as mentioned before, there are far too many cryptocurrencies out there at the moment. Limiting the amount or outright banning non sanctioned cryptocurrencies to discourage scammers from making their own would be the first step. Second step would be to reflect the current value of the U.S. dollar to crypto. So for instance for every cryptocoin you have, that would be the amount of money you would have in U.S. dollars. So five crypto coins would be equal to five dollars. That would seem to be the most logical way that cryptocurrencies would be able to operate as a standard currency. This way it will be easier to gauge how much crypto is worth, making it less of a challenge for lawmakers and the treasury department to determine the value of the coin. But the ultimate problem with this is the fact that crypto's main gimmick is that it's a decentralized form of currency, meaning that the government has no control over it. Meaning that the

government would face the issue of “ trading mechanism and underlying technology of decentralized cryptocurrencies make them difficult to satisfy the function of legal digital currency” (Yao Yue et al., 2021) and it would keep average people from getting confused when the coin replaces the dollar, as they will be accustomed to the change due to how similar it would be to the traditional U.S. dollar. Speaking of average people, let's see how society feels about cryptocurrency currently and how likely they will accept the change to crypto in the future.

Effects on society

Americans as a whole, haven't taken the advantage of cryptocurrency. Recalling back to the third paragraph, not that many people in the U.S. have even used cryptocurrency in any form. Judging from that alone we can determine that cryptocurrency is niche and doesn't have the kind of acceptance in society as the U.S. dollar does. This makes sense considering how long the dollar has been around and how much of a prominent impact it has on not just society in America, but in countries all over the globe as being the most traded currency to date. This leads into the question of, how does the government introduce cryptocurrency as America's standard currency while making it appealing and less confusing for the general population to understand? Also how will the majority of the population react to the change of currency that they have been used to for so long? Addressing the first question, takes in account all of the points addressed thus far in the previous paragraph. A culmination of laws and regulations, to make sure there is one defining form of cryptocurrency endorsed by the government to cut down on confusion and illegal counterfeiting trying to swindle people out of money. Also making the crypto coins one to one with the U.S. dollar. This can help cut down on the confusion of stores and businesses so

they are not undervaluing their products or overpaying employees. They can pretty much just keep it the same as it's always been. Answering the second question requires a little more foresight as there is no real way to truly know the reaction that individuals will have when crypto is introduced. Doing surveys and questioning people on the topic is about the best we can do in the current time period. It just so happens that a person by the name of David Lucas Faria did an interview/survey with some individuals back in 2020 on the subject and he was able to conclude with this statement on the matter, In regards to how people think/view cryptocurrency, "People know too little regarding the theme and the adoption would not be possible in the whole world."(David Lucas Faria, 2020, p.48). Judging from the conclusion he came to I can assume that most people will react to its integration with a sense of confusion and frustration. As people we are not accustomed to changes no matter how big or small they might be. So when a change takes place, especially as big as the type of money we make, it can cause problems within society. To give a quick example on how change causes outrage, back in the 1980's Coca-cola rolled out new coke and received so much backlash the company had people file lawsuits against the company in outrage. In the end they reverted back on it, and people were asked if they could taste a difference between the new coke and old coke formula, most people said no they couldn't. Essentially it was outrage over a soda can change. People who are used to receiving and spending money a certain way will refuse to cooperate with the changes and will try everything in their power, even if it means protesting outside of the whitehouse and/or their jobs to demand that the old form of currency is returned to the way it used to be. You will have some people, who are typically not paid through electronic means and rely on their employers to pay them in cash or checks, because it's not only more convenient for them. There are some people who might not have access to the internet where they're from and might not have the means of

occurring on the internet with the money they make. One must also consider the older people who are not tech savvy, being incredibly confused with the concept of cryptocurrency. In which case they will refuse to learn how to access it, because it seems like too much work for them. On the topic of causing confusion with many people, there is a large percentage of people in America that simply doesn't know how crypto works. Meaning that it would be virtually impossible to convey to the massive population in a comprehensive manner how cryptocurrency works and their reasons on why they are getting rid of a universally recognisable currency with a newer more confusing one instead. In all honesty it can turn into a form of unrest and anger from the general populace, who will never accept the change no matter how you present it.

Conclusion

So in conclusion, the theories in this paper conveys a sense that crypto currency is not yet established and/or grounded enough to work as a proper form of currency to replace the U.S. dollar. From environmental concerns that seem to do more harm to the environment than good. To the economics of cryptocurrency, currently not making any sense and would need to be overhauled from the ground up and unified by one coin for it to even work in the first place. To the government intervention that would need to go in and rework the entire U.S. currency system and replace something that is completely functional and practically perfect with very little flaws, that currently dominates every other currency type out there in the form of trades. While also having a vast majority of the population having never even considered dabbling into the concept/idea of cryptocurrency and making it hard for them to get into it based on every other aspect explained/conveyed within this paper, there is simply no point in replacing the U.S. dollar

with this currency system. It's simply too convoluted and furthermore detrimental to be worth putting any effort into.

Reference page

Yao Yue, Xuerong Li, Dingxan Zhang, Shouyang Wang (2021). How cryptocurrency affects economy? A network analysis using bibliometric methods. *International review of financial analysis*. <https://www.sciencedirect.com/science/article/abs/pii/S1057521921001976>

David Lucas Fria (2020). Revisiting the impact of cryptocurrency in our society. *ISCTE Business school*, p.48.

https://repositorio.iscte-iul.pt/bitstream/10071/21576/1/master_david_lucas_faria.pdf

Thomas Franck (2022). One in five adults has invested in, traded or used cryptocurrency, NBC News poll shows. *CNBC crypto world*.

<https://www.cNBC.com/2022/03/31/cryptocurrency-news-21percent-of-adults-have-traded-or-used-crypto-nbc-poll-shows.html>

Steven M. Ziegler (2018). Innovative legislation is necessary to address terrorist & criminal use of cryptocurrency. P.35.

<https://deliverypdf.ssrn.com/delivery.php?ID=381025121008122080106030021002084103121054040082031043106003102107085116081084084030118030122121033051020120115007028070107086028008022092000022068102072104090081090039080080098023122084091109104081031002006094092089069097097110079097007025007096125013&EXT=pdf&INDEX=TRUE>

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Kamshad Mohsin (2021). Cryptocurrency and its impact on environment. *International journal of cryptocurrency research*. P.3-4.

<https://deliverypdf.ssrn.com/delivery.php?ID=255100081087114083123113117014007023016039060039010087100112103070068093029103072022019117103061008030027118125020099097091077043075078051054004014106027100087124105003079016086009088028103018121094002113006004099070076001064100085125102085121082003027&EXT=pdf&INDEX=TRUE>

Egiyi, Modesta Amaka, Ofoegbu, Grace Nyereugwu (2020). Cryptocurrency and climate change: an overview. *International journal of mechanical engineering and technology*. P.6.

<http://eprints.gouni.edu.ng/2575/1/CRYPTOCURRENCCY%20AND%20CLIMATE%20CHANG E.pdf>

Gourang Aggarwal, Vimal Patel, Gaurav Varshney, Kimberly Oostman (2019). Understanding social factors affecting the cryptocurrency market. P.4. <https://arxiv.org/pdf/1901.06245.pdf>

Josh Howarth (2022). How many cryptocurrencies are there in 2023? *Exploding Topics*

<https://explodingtopics.com/blog/number-of-cryptocurrencies>