Cryptocurrency: Digital Gold or Fool's Gold?

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Introduction

On January 3rd, 2009, the first Bitcoin was mined, and the world has not looked back ever since. As with any ground-breaking technology, the space quickly becomes flooded with eager developers and ambitious investors. Blockchain, the emerging technology which has fueled the meteoric rise of cryptocurrencies has received its fair share of praise and criticism from optimistic technologists and traditional governments, respectively. This, in effect, has created a large rift in the financial landscape with a majority of individuals largely falling into either one of two camps. Some foresee blockchain to be the next big thing after the Internet, typically citing the technology's promise of privacy, security, and integrity as rehabilitating for society. Others warn against the disruptive nature of this technology and believe that its existence only servers to facilitate illicit activity.

In hindsight, it seems that no matter how disruptive a technology may seem for its time, it has never truly been able to escape the grasp of government regulation. However, with blockchain, what many traditional institutions are concerned about is whether blockchain truly is a fundamentally different technology with the potential to forgo the need for a central authority figure. The past few years have come to reveal that there are still many legal hoops to jump through before the future that proponents envision can be actualized. This paper will analyze the legal state of cryptocurrency, address the future of blockchain, and determine the role that legislation will play in the adoption or extinction of this new technology. Before we dive deeper into the ideology of these two camps, allow us to explore the fundamentals of blockchain and the use cases it encompasses.

Background

For many, blockchain and cryptocurrency is largely a foreign concept and their knowledge of it does not extend beyond what they see in headlines. However, one cannot blame them given that the origins of blockchain are deeply rooted in upper-level mathematics fields such as cryptography [3]. Popular definitions of blockchain describe it as "a shared, immutable ledger that facilitates the process of recording transactions and tracking assets in a business network" [1]. For each transaction that is recorded, a "block" of data is created on the ledger which contains various information and is connected to preceding and succeeding blocks in a chain-like fashion. Transactions are recorded in a decentralized manner on a blockchain network which means that no central entity has the power to alter, remove, or inject data.

The most popular use of blockchain has been in exchanging value through the use of digital currency. The first implementation of this technology was observed in the Bitcoin white paper, published in January 2009 by an individual under the pseudonym Satoshi Nakamoto. It describes an open source and peer-to-peer digital currency where transactions do not require a third-party intermediary such as PayPal or Visa [2]. What was revolutionary about this white paper was that for the first time ever, a digital currency was developed which did not involve any traditional financial institutions and bypassed the need for a central controlling person or entity to facilitate transactions. It was truly decentralized.

However, this simple monetary transaction barely touches tip of the iceberg when it comes to all of the things that blockchain can accomplish. Additional uses cases of blockchain include asset tokenization, decentralized applications, and public recordkeeping. Decentralized applications can, for example, be used to facilitate elections in a secure manner without the need to worry about instances of voter fraud. They can also be used to develop virtual worlds or games where users can purchase and own land in a digital realm. The case for digital ownership is closely tied with the concept of non-fungible tokens, or NFTs for short. NFTs are a way to represent anything as a unique, or one-of-a-kind asset whose ownership is powered by smart contracts on the Ethereum blockchain [4]. These are particularly appealing to content creators, artists, musicians, and art collectors. Ledgers can also be used to store public or private records such as birth certificates, death certificates, wedding certificates, court records, and personal identification.

These use cases only further highlight the potential for blockchain to uproot the way traditional activities, such as record keeping and asset ownership, are conducted in our society. It is not difficult to see the integral role blockchain could one day play in our society. Irrespective of how advantageous this technology may be, governments have been reluctant to embrace it with open arms. In the following section we will analyze the unintended consequences this technology has and address the legal concerns commonly cited by governments and related entities.

The Dark Side of Cryptocurrency

Historically, regulatory agencies have been able to crack down on criminal activity by "following the money." However, now with money transfers completely anonymized, federal agencies have been largely left in the dark. Politicians immediately recognized this as a threat to

the legitimacy of structured government and began to foresee other ways in which cryptocurrency could be used to undermine key functions of the government and delegitimize the role of central banks in our society. On one hand, optimistic technologists see blockchain as a tool which can be used to radically transform society for the better. On the other hand, nefarious actors see digital currency as a tool which can be used to further their own agenda.

Before governments had even come to fully understand what cryptocurrencies were, underground black markets were already thriving because of them. Criminal organizations were quick to capitalize on this opportunity to make transactions in a currency other than the heavily-regulated US dollar. The absence of a third-party to facilitate these transactions meant that these organizations could now easily fly under the radar of law enforcement. With dark web markets now able to operate freely with little to no restrictions, criminal organizations were free to conduct illicit business with no limits and little risk. The negative connotation that exists with cryptocurrencies today is largely because of the prevalence of such activities.

The criminal and immoral ways this technology is being used includes but is not limited to "illegal trade (drugs, hacks, thefts, illegal pornography, murder-for-hire), potential to fund terrorism, laundering money, and avoiding capital controls" [5]. Despite the ideal use cases of Bitcoin which Satoshi Nakamoto has highlighted in his white paper, one cannot ignore the true reality in which this digital currency is being used. One study found that approximately one-quarter of all Bitcoin users and one-half of all Bitcoin transactions are associated with illegal activity [5]. With over "27 million annual users making 37 million transactions worth three-fourths of the illegal drug market" in America, it not hard to see why governments are intimidated by the explosive nature of this technology [6]. Regulators are frantically trying to contain it and are aware of the potential consequences if not prioritized quickly.

The cryptocurrency space has also more recently become flooded with criminals of another kind as well: fraudsters. They are typically responsible for the legal issues which are often overshadowed by black market trade: Ponzi-schemes, unregistered securities, money laundering, and fraudulent tokens which serve no real purpose. Similar to the dot-com bubble, tens of thousands of investors and innovators flocked to the blockchain space when it was in its early stages of development. While many were looking to make some sort of positive contribution, there were others coming in with bad intentions in mind. An example of this is the infamous Bitconnect project, which was released as a lending program where users traded

Bitcoin for Bitconnect Coin and could lock in the instantaneous value of the coin for a set period of time while earning interest calculated daily [7]. The multi-level marketing structure of the program combined with ridiculously high payouts led many to suspect that it was a Ponzi scheme. The company quickly met its demise after state securities boards began to accuse it of selling unregistered securities. Months after Bitconnect's fallout, two regional directors, John Bigatton and Divyesh Darji, were arrested and charged with crimes related to losing investors over $3.7 billion. OneCoin, a similar scam, is alleged to have brought in over $4 billion. Though its founder, Ruja Ignatova, had disappeared around the peak of the scam in 2017, she was found in March 2019 and charged with money laundering and fraud. The unfortunate reality here is that in times of great opportunity comes great confusion. Nefarious actors tend to abuse the exciting nature of ground-breaking technology to manipulate uninformed and often desperate investors.

Case Study: Monero

The case for regulation gets more complicated when you begin to consider a cryptocurrency like Monero, which puts itself out to be a privacy-token. This cryptocurrency developed out of a need for increased privacy in the face of growing government surveillance. Unlike Bitcoin where all transactions are recorded on a public ledger, Monero actually encrypts its transactions before recording them on its public ledger. Therefore, even if you were to get ahold of someone's Monero wallet address, it would be impossible to trace the origin of a set of funds. Whereas for Bitcoin, it is possible to trace funds being transferred back up through its blockchain of recorded transactions.

Because Monero is a privacy-centered coin, some say that attempting to delegitimize this coin is an intrusion of one's right to privacy. Many argue that this digital currency should receive just as positive of a reception as do other government policies pushing for privacy such as BIPA and CCPA. Monero's private nature truly makes it a double-edged sword. On one hand, many would advocate for new tools which would prevent authorities from encroaching on one's privacy. On the other hand, those same individuals would hesitate to push for something that could further obscure the operation of illicit activity. What this shows is that by acting in your own interest, you would also be playing an indirect role in enabling the crimes of nefarious actors. There is clearly something wrong with this scenario, and it is largely the result of lagging government legislation. Law-abiding citizens should not be forced to have their privacy compromised due to the actions of individuals who choose to abuse the system for personal gain.

Though privacy-focused coins may create a nightmare scenario for regulators, we will see in the upcoming sections the strategic ways in which governments can approach regulation while still reaping all of the benefits that blockchain and cryptocurrency have to offer.

Conservative Outlook

Before we uncover the progressive policies that some countries have implemented, allow us to first analyze where some of these countries were just a few years ago and where most of the world is now. The Asian countries of Nepal, Pakistan, and Vietnam seem to have some of the most stringent policies on cryptocurrency in the world. Nepal Rastra Bank has outright made all transactions related to or regarding Bitcoins illegal [9]. Authorities in the country went so far as to arrest seven people for allegedly running Bitcoin exchanges. The fact that Nepal has addressed only Bitcoin and not other cryptocurrencies seems to indicate this was a very impulsive reaction on their end. It also goes to show the limited knowledge these authorities possess regarding the vast cryptocurrency space. It seems that countries who are struggling to determine the role of cryptocurrencies in their current financial system either lack modern technology legislature or the appropriate regulatory agencies to enforce such policies. In September of 2017, the Central Bank of Uzbekistan asserted that the operation of cryptocurrencies was not advisable due to the potential for terrorism financing and other criminal activities [9]. One year later, this seemed to have changed. In February of 2018, their president signed a decree instructing the Central Bank of Uzbekistan and several other agencies to develop a legislative framework for the use of digital money in their country by September of that year.

Other countries who have taken extreme approaches are those suffering from political instability, civil war, or authoritarian regimes. We will see two angles to this extreme approach which both share their pitfalls: immediate ban and immediate adoption. These extreme actions seem to be a product of the political or economic turmoil the country is currently in. For countries that are actively struggling to contain terrorist insurrections, it seems that starving terrorist groups of their key source of funding may be the most appropriate action to take for them. This can be observed with the Central Bank of Iran which has prohibited the handling of cryptocurrencies by all Iranian financial institutions, including banks and credit institutions [9]. Their ruling falls in line with recent efforts to push anti-money laundering policies and combat the financing of terrorism which prevails in the area.

The other angle to extreme approaches is that of rapid adoption. Though this may seem ideal on the surface, it can become quite risky down the line. In 2016, a series of miscalculated government polices combined with corruption resulted in Venezuela entering into a period of hyperinflation. During this time, citizens experienced a severe devaluation of their native currency, the Bolívar, as well as shortages of foreign currency reserves and goods [9]. A scenario such as this is typically irreversible and leaves officials with no choice but to look for an easy exit strategy which can help restabilize their economy. In late 2017, Venezuelan authorities looked to blockchain technology to help them achieve that as they authorized the creation of their own cryptocurrency, which would be backed by Venezuelan barrels of oil [9]. As ambitious as this seems, one needs to consider the risks of such early and rapid adoption. Given the stages that cryptocurrency development was at in 2017, the product was likely not reliable enough to bring an entire country out of economic turmoil. Furthermore, a majority of the cryptocurrency development, research, and investment is centered in the United States. Therefore, the blockchain network which Venezuela creates and chooses to adopt may not remain as competitive of a product in the global cryptocurrency space in the long run. In the upcoming sections we will take a look at the competitive advantage the United States has in the cryptocurrency landscape and the role that has played in the push for a more calculated and progressive outlook on adoption.

Progressive Outlook

As we have seen in the past, technologies which seem to have the largest impact on society are those which have cooperated with governments and regulatory agencies. At the end of the day, it is these entities which hold the power to proliferate your success. Trying to completely undermine the financial system we currently have in place, as many cryptocurrencies put themselves out to do, may lead to an unfavorable endgame for all those involved. However, as we have seen in the previous section, not every country is cut out to undergo such a transformation. It seems that the countries in the second camp have quite a few characteristics in common. When combined with regulatory compliance, these characteristics seem to finally produce the results which optimistic technologists hope to see.

The countries most well-suited to lead the way in safe cryptocurrency adoption tend to have stable political climates, strong economies, and competitive market which gives them the freedom to experiment with new technology such as blockchain. In this class are several

European countries including Spain, Czech Republic, Belarus, and Luxemburg [9]. Spain, for example, sees this as an opportunity to expand and invest in the growth of their technology sector. The government there is looking to adopt cryptocurrency-friendly legislature in hopes of attracting blockchain technology companies. They have even made Bitcoin transactions exempt from the country's value-added tax. Making such moves early in the blockchain revolution may prove to be valuable down the line.

In Belarus, High Technologies Park is a special economic zone created by their government to foster the development of up-and-coming technologies with a particular focus on digital currencies [9]. A presidential decree from 2018 permits individuals to mine, exchange, sell, and donate cryptocurrency tokens. It also provides tax breaks until 2023 for individuals who generated income from mining and until 2049 for businesses operating the zone [9]. High Technologies Park is also home to a crypto-exchange and mining operators, which are largely left to self-regulate. The region holds great potential and is only going to attract more investors from around the world. The success of these nations has depended on their ability to find an adequate balance between government regulation and free-market growth. Countries seem to have far more to gain from acknowledging the potential of this $40 billion blockchain industry than from hindering or suppressing the growth of it. In the words of famous English writer, H.G. Wells, "you either adapt or perish."

United States of America: Leading the Charge

At the other end of the Atlantic, it seems that the United States has taken that quote to heart. Being the global leader in innovation, it has not fallen short when it comes to advancements in the blockchain and cryptocurrency space. It has also not fallen behind when it comes to regulation. The United States Department of Justice has been one of the first entities in the world to release a comprehensive framework for cryptocurrency regulation. It is titled "Cryptocurrency Enforcement Framework" and was released in October 2020 by the Attorney General's Cyber-Digital Task Force [10]. The Task Force is composed of attorneys from the DOJ's National Security Division as well as directors from the Federal Bureau of Investigation (FBI).

The framework provides a threat overview ranging from the legitimate uses of cryptocurrency to illicit uses as well. It also details several high-profile investigations which targeted popular blackmail, extortion, and money laundering services on the dark web. Operation

DisrupTor resulted in the arrest of 85 drug traffickers, and the seizure of $6.5 million, 270 kilograms of drugs, and 63 firearms [10]. By actively pursuing cyber criminals, the FBI is virtually just policing the cryptocurrency space. For proponents of blockchain, this should be quite relieving. Strong law enforcement only serves to make this a safer space for individuals looking to actually provide meaningful services using blockchain. Additionally, the Task Force has identified several regulatory authorities who play a key role in the enforcement of cryptocurrency regulations. The most prominent one is the Securities and Exchange Commission (SEC), which plays an important role in maintaining fair, orderly, and efficient markets [10].

Obtaining regulatory clearance for cryptocurrencies has seemingly been made a priority under the new Biden administration. One of the main reasons why many countries have been slow in addressing the state of cryptocurrency is because they lack individuals who are qualified to do so. As a result, Joe Biden has recently made some crucial appointments to important positions in these agencies. One of these appointees was Gary Gensler, who is now the Chair of the Securities & Exchange Commission. Gensler is Professor of Practice of Global Economics and Management at MIT, Co-Director of MIT's FinTech@CSAIL, and Senior Advisor to the MIT Media Lab Digital Currency Initiative [11]. Furthermore, he conducts research and teaches classes on blockchain technology, digital currencies, financial technology, and public policy. Now that the SEC is headed by a technically-adept, proponent of digital currency, we are likely to see a greater push for cryptocurrency regulation and legislature in the near future. It is essential that future appointees possess this sort of background if we are to see any sort of widespread adoption or proliferation of blockchain in the form of its many use cases.

Case Study: Stablecoins

Amid the hundreds of cryptocurrency projects which have taken the world by storm, there is one particular subclass of projects which seem to appeal to governments and central banks more than others: stablecoins. Stablecoins are a form of cryptocurrency whose value is pegged to fiat money, exchange-traded commodities, or other cryptocurrencies [12]. They share many of the same features as traditional coins in terms of security, efficiency, and transparency. However, what makes stablecoins unique is that they lack the volatility factor present in most other coins. Popular stablecoins today include USD Coin (USDC), Tether, and Dai. These coins are using the power of blockchain to facilitate safe, secure, and speedy transactions. By

tokenizing the US dollar, they're essentially adding more dimensions to the way that money can be used in our present fiat currency system.

Stablecoins present a special use case which does not look to undermine the current financial system, but rather complement it. Top stablecoins such as USDC are issued by regulated financial institutions which makes it a much safer asset to use than other coins [12]. Furthermore, these coins undergo regular auditing to ensure that there is 1:1 collateral with the US dollar at any given time [13]. This case study presents an ideal scenario of how cryptocurrency can thrive in our current legal system while still reaping the benefits of blockchain. It also goes to show that governments looking to integrate cryptocurrency into their system can do so without having to throw their fiat currency out the door. As the United States' policies and reception toward cryptocurrency continues to nurture a competitive environment, we are likely to see blockchain networks and payment protocols only improve over time. With even central banks looking to jump into the mix now with the development of their own Central Bank Digital Currency (CBDC), one thing that remains certain is that the US government will hold a massive competitive advantage over the rest of the world when the time comes to renovate our financial system.

Conclusion

Blockchain is an emerging technology which has given rise to a new class of assets, decentralized applications, and non-fungible tokens. The applications for which blockchain can be used for only seem to be growing by the day. It has given new insights into ways that blockchain can be used such as to tackle fraud, tokenize assets, and administer secure elections. There is no doubt that its implications can be massive. Albeit blockchain solves some critical infrastructure issues when it comes to security, authenticity, and efficiency, it opens up a whole new world of problems as well, many of which may be out of the reach of authorities. Some countries have begun to recognize the potential for cryptocurrencies to undermine their legal systems and have resorted to extreme measures to address this threat. Others have taken a more progressive approach and have implemented support systems in place to help facilitate the growth of this technology. We have also seen that extensive law enforcement and government regulation can help filter out the bad actors who have compromised this space. This is necessary in creating a safer space for developers and individuals who will eventually come to adopt this technology. What truly will allow blockchain to flourish will be if its different use cases can

function in synchrony with government regulation. The ability for companies to work alongside federal agencies rather than against them will be the deciding factor in whether or not we will see blockchain adoption spill into the mainstream.

Sources

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