

Nation and Bitcoin

An Analysis of Regulation Strategies

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What should a nation state do with Bitcoin? a) ban, b) adopt as legal tender, c) something else. Get an overview how countries regulate Bitcoin (all three options are in place today), collect pro/con arguments, and give a recommendation with respect to the three options. Bonus: What role does (or can) Bitcoin play in Russia and Ukraine, in your opinion?

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1 Introduction

As proposed in the whitepaper “Bitcoin: A Peer-to-Peer Electronic Cash System” by Satoshi Nakamoto [1], the main goal of Bitcoin is to be a means to transfer value from one peer to another, without any intermediary third party. To facilitate this idea, users of Bitcoin interact with each other through a decentralized network of computers. The whole system relies on the concept that the majority of CPU power in the network is used coherently with the protocol and in an honest way. Under that assumption, all transactions are valid and sequentially ordered in a network-wide shared ledger; the so called blockchain.

The system provides information regarding the Bitcoin money supply and all the made transactions. Both are stored on the blockchain and therefore made visible to everybody. No personal information of a user is needed participate in the network. Furthermore, Bitcoin can provide full anonymity: no name, email or other identifying information is required to make transactions.

To keep all nodes on the same page about the current state of the blockchain, a proof-of-work (PoW) consensus mechanism is used, which additionally incentivises nodes to comply with the protocol and create valid blocks of transactions by rewarding them with Bitcoin tokens. Since Bitcoin is open-source code and with no authority being in control, anyone can help to further develop Bitcoin in different areas including Bitcoin software clients.

Bitcoin is already widely accepted as a payment currency [2] and it requires less infrastructure than traditional bank transaction systems. All one needs to hold, pay, and receive Bitcoin is a device with an internet connection. Additionally, the use of the Bitcoin blockchain doesn’t require permission by any authority or financial institution. Therefore, Bitcoin can be used globally by anyone without being limited by borders. Bitcoins cannot be confiscated from a wallet and the owner can be its own bank by storing the associated cryptographic keys. The PoW consensus protocol also ensures that transactions cannot be blocked or censored.

This gives the users true ownership of their coins and eliminates the risk of corrupt financial systems and power entities.

The transaction speed of Bitcoin on the Lightning Network, is near instant with a range between millions and billions of transactions per second. Compared to central payment networks such as Visa, Mastercard or PayPal, the cost for a transaction is significantly lower with the Lightning Network [3].

From the initial idea in 2008 until today, the expectations and hopes of what Bitcoin should be, have evolved. Currently Bitcoin is perceived as the following: an online transaction system without a trusted third party, a pseudo-anonymous way to globally

transfer value, a store of value, a hedge against inflation and even a volatile investment asset. With all of these capabilities and no central governance over the system, Bitcoin is naturally hard to regulate.

This paper will explore the current state of Bitcoin regulations in various countries and analyse why it is treated differently as well as make recommendations on how a government might want to address their laws concerning Bitcoin.

2 Factual Overview

2.1 Policies

With the rising acceptance of Bitcoin and other cryptocurrencies as payment methods, nations, national banks, and other financial authorities are trying to find suitable policies to support their stand with or against cryptocurrencies. While the crypto-space is a very dynamic and fast-growing field, the policy making is a slow and tedious process. Therefore, it is expected that the existing policies and categories presented in this chapter will differ from future policies in the crypto-space. The recent trend in policy making can be categorized in three different parts.

2.1.1 Complete Ban

Countries that ban crypto can enforce their decision by imposing heavy penalties on citizens for making crypto transactions. They are also able to restrict access to crypto-exchange platforms and therefore make it harder to buy and sell cryptocurrencies. However, it's almost impossible to restrict the ability to send and receive cryptocurrencies once a user has created a wallet. Therefore, a complete ban doesn't mean that citizens don't hold and use Bitcoin and other cryptocurrencies anymore.[4]

2.1.2 Banking Ban

The second category, often named as "banking ban", means that it is legal to trade and hold Bitcoin, but illegal to use it as a payment tool. Banks are not allowed to trade cryptocurrencies. The country's national central bank does not recognize cryptocurrencies as a form of payment and most often warns citizens from using Bitcoin as it is highly volatile, and that no protection or rights are guaranteed.

2.1.3 Legal with or without regulations

Politics and national banks have accepted or not further restricted the use of cryptocurrencies. Bitcoin and other coins have been accepted by the regulatory authorities to be used as a payment method. However, they are often not seen as money or as legal tender

but as a commodity. This is most often because central banks are not in control of the currency and therefore see it as a high risk for the citizens to use. Since Bitcoin is stated as a commodity it must be taxed.

2.2 Overview of Countries

In this section, we present the current state of Bitcoin regulation in the following countries: USA, China, El Salvador, Nigeria, Switzerland, Ukraine and Russia.

2.2.1 USA

Political System: Constitutional Federal Republic

Bitcoin Policy: legal (not legal tender)

In the United States of America, cryptocurrency regulation has been an ongoing conversation topic for at least the past decade and still is today. The never seen before decentralized and digital nature of Bitcoin makes it unclear how to classify it.

As mentioned in a statement of Jennifer Shasky Calvery, the former director of the Financial Crimes Enforcement Network (FinCEN) of the United States Department of Treasury in 2013, Bitcoin was classified under the two umbrella terms: “decentralized virtual currency” and “cryptocurrency”. The first one meaning that it is a “medium of exchange that operates like a currency in some environments but does not have all the attributes of real currency” having “no central repository and no single administrator” and the latter stating, that “it relies on cryptographic software protocols to generate the currency and validate transactions” [5]. The push for regulation at that time was mainly motivated by efforts to counter money laundering and terrorist financing.

In 2015, Bitcoin, along with other virtual currencies, was defined to be a commodity by the Commodity Futures Trading Commission (CFTC) under the U.S. Commodity Exchange Act [6]. The CFTC is thus responsible for investigating fraud in the crypto-space and inform investors about the potential risks associated with Bitcoin [7] [8]. More recently, in 2017, the CFTC even allowed derivatives of Bitcoin to be traded publicly [9].

Additionally in 2021, Gary Gensler, the chair of the U.S. Securities and Exchange Commission (SEC), mentioned that some cryptocurrencies even fall under the category of securities [10]. This implies that U.S. citizens need to declare their crypto investment gains and losses in their taxes.

Overall the U.S. has no intention to ban cryptocurrency, but rather tries to embrace it under currently evolving regulations. This sentiment is reflected in the “Executive Order on Ensuring Responsible Development of Digital Assets”, which was signed by President Biden in March 2022 [11].

2.2.2 China

Political System: People's Democratic Dictatorship

Bitcoin Policy: complete ban

A decade ago, while Bitcoin was gaining in popularity, China's citizens were at the forefront of cryptocurrency adoption. Already in 2011, there were Bitcoin exchanges. Only a few years later in 2013, big companies started accepting Bitcoin as payment. The crypto-mining industry was flourishing as well, which led to China having the majority of the Bitcoin hashrate (up to 65% by 2020) [12].

Regulation-wise, the Chinese Central Bank first restricted financial institutions from executing Bitcoin transactions in 2013 [13] and then banned initial coin offerings (ICOs) in 2017, as they were seen as unauthorized and illegal public fundraisings related to criminal activities [14]. Further, in May 2021, the Chinese Government decided to put a complete ban on cryptocurrencies. This means that all cryptocurrency transactions were declared illegal, companies were no longer allowed to offer crypto related services and the crypto mining industry had to shut down in China [15].

China thus stands strongly against decentralized cryptocurrencies and demonstrates a strict handling of their laws with respect to economic regulations. China isn't completely opposed to digital currencies however, which the e-CNY project shows. However it is important to note, that the e-CNY is not a cryptocurrency, but instead a central bank digital currency. It is not decentralized and it is not relying on blockchain technology [16].

2.2.3 El Salvador

Political System: Presidential Representative Democratic Republic

Bitcoin Policy: legal (legal tender)

El Salvador is famous for being the first country to adopt Bitcoin as legal tender in June 2021. Declaring Bitcoin as legal tender has far more implications than just legalizing it as an asset or alike. The status of legal tender (in the case of El Salvador) means that Bitcoin must be accepted as a means of payment by businesses and used to pay off debts and taxes. Furthermore prices may be denominated in Bitcoin. For purposes of accounting however, El Salvador will still use the U.S. Dollar [17].

Before 2021, El Salvador had a neutral policy concerning cryptocurrency and relied on a "wait-and-see" strategy like a lot of other countries [18]. The country didn't decide to adopt Bitcoin because of technological familiarity (in fact, only about 50% of its population used the internet in 2019 [19]), but for political and economic reasons. Some of these motives included: becoming more independent of the U.S. Dollar and the U.S.

economy; making remittances faster, safer and cheaper (around 20% of El Salvador's GDP came from remittances in 2020); giving more people access to a banking-like system (around 70% of citizens don't have a bank account) and avoiding political pressure induced by the SWIFT international transaction system [20][21].

In short, El Salvador's leadership is all in on Bitcoin and is trying to integrate it as a payment system into society by actively funding projects like the Chivo Bitcoin Wallet, local Bitcoin ATMs and Bitcoin/USD liquidity pools [22]. Despite the International Monetary Fund urging El Salvador to drop Bitcoin as legal tender and a lot of business owners still using cash, the government is holding on to their strategy [23].

2.2.4 Nigeria

Political System: Federal Presidential Representative Democratic Republic

Bitcoin Policy: complete ban

Not only is Nigeria Africa's largest country by the size of its population and economy, it's also one of the world's biggest Bitcoin trading countries. About 32% of Nigerians have owned at least one type of cryptocurrency by 2020. Even after February 5th 2021, when the government announced that it would ban cryptocurrency transactions through licensed banks and close bank accounts that are used for such, the number of crypto transactions was still increasing. While the Central Bank of Nigeria (CBN) effectively banned exchange platforms, citizens of Nigeria adopted their behavior and moved to less secure P2P transactions to buy and sell crypto currencies. [24]

This adoption is mainly because Nigeria is facing a financial and political crisis. Their currency, naira, lost 30% in value in the past 5 years compared to the U.S. dollar. The inflation rate in Nigeria is currently about 16% and hasn't been below 10% since 2016. Remittances from family members working abroad are charged with high fees, have bad exchange rates and get slowly executed. Protesters and regime critics have their bank accounts suspended.

2.2.5 Switzerland

Political System: Semi-Direct Democratic Federal Republic

Bitcoin Policy: legal (not legal tender)

The country of Switzerland is progressive with cryptocurrencies. In May 2016 the city and canton of Zug were the first public institutions worldwide to accept Bitcoin as a means of payment. Subsequently, it attracted many blockchain companies and investors which turned it into the "Crypto Valley". Switzerland took the international second place after the US in funds generated from initial coin offerings (ICOs) in October 2017. On January 18, 2018, the Swiss economics minister, Mr. Johann Schneider-Ammann, expressed his

vision of Switzerland being “the crypto-nation in five or ten years”. The crypto industry is seen as a means of providing an opportunity for Switzerland to claim its leading position in innovation and technology [25][26].

The country has an anti-money laundering legislation. Companies who provide the sale of cryptocurrency are required to join a self-regulatory organization or apply to FINMA for a license and supervision [27]. FINMA is the Financial Market Supervisory Authority [28].

As expressed in his interview for Bitcoin Suisse in 2022, the current president of the confederation, Ignazio Cassis continues to recognize the advantages of Switzerland as a place of development for blockchain technologies and how it can have a positive influence across the world [29].

2.2.6 Ukraine

Political System: Semi-Presidential Representative Democratic Republic

Bitcoin Policy: legal (not legal tender)

From the Chainalysis 2021 Crypto Adoption Report, Ukraine comes out first with the highest adoption rate of cryptocurrencies. The adoption of cryptocurrencies is growing in Ukraine due to a tech-savvy population, and an unstable economy. This combination is a driver for change. The population is currently using crypto to send money between businesses and for cross-border transactions, to avoid the heavy import-export regulations. Furthermore, there are not many options for savings and passive income in Ukraine. There is no national stock market. Banks have not always shown to be trustworthy and real estate is too expensive for most citizens. Therefore it seems that individuals, rather than businesses, are the drivers of crypto adoption, which they use for investment and trading. But no official statistics exist. Additionally, crypto is seen as an accessible safeguard against the volatility of the national currency, which depends on an unstable political and economic system. Thus, crypto became a new source of income during the Covid-19 pandemic, in a heavily impacted economy [30].

The government dealt with crypto-oriented regulations in cooperation with the local blockchain community. Ukraine proposed a bill to regulate crypto as a type of property, to expose the legal procedure to businesses, as well as to explain the generalities of crypto to the general population in September 2021. The bill was signed early March 2022 amidst the Russian conflict [31]. The country also decided to supervise crypto transactions for illicit activities. There is a high level of cybercrime activity in Eastern Europe, creating some restraint towards a complete trust in such technologies. The government has also requested the declaration of crypto gains for tax purposes, which is hoped would eventually offer new economic opportunities. The new law is presented as a means to protect crypto

holders. However, distrust remains as some believe the law will be a magnet for corruption. What is more, declaring crypto for taxation only creates new threats, as the data of owners could be leaked to criminals. Besides, the government itself might be the entity to be afraid of. A large part of the Ukrainian population has a distrust in the government and fear it will abuse its powers [32].

2.2.7 Russia

Political System: Federal Semi-Presidential Republic

Bitcoin Policy: legal (not legal tender)

Along side Ukraine, Russia comes out on top of the adoption rate. As a heritage from the Soviet Union, Russia has a history of using e-payment services. In the 90s, the soviet population did not have easy access to the global banking system and had to rely on alternatives. People are used to digital payments, like e-gold, the precursor of cryptocurrencies. As such, the transition to cryptocurrencies runs smoother and easier than in other countries. Likewise to Ukraine, Russia has a tech savvy population, and a prosperous start-up economy.

As addition to this, the Russian ruble has been unstable in recent years, which adds to the interest in crypto. Russia and Eastern Europe accounts for more overall darknet market-related cryptocurrency activity than any other region. They lead the world in ransomware operations [33].

In law, which passed in 2020, digital currencies were not recognized as legal tender and the Russian ruble was to remain the only official monetary unit. Russians were not allowed to receive digital currencies as a means of payment.

However, following the increase of crypto, the government started examining how to legally define cryptos, how to incorporate them into the legal system, and started to establish procedures for taxing them. In 2020, a bill was submitted, concerning the regulations of the circulation and possession of cryptocurrency. Besides it defined the responsibilities for the violation of these rules. The bill recognizes cryptocurrency as an asset and subsequently sets out its taxation. [34].

2.3 Demographics of Bitcoin

According to the 2021 Chainalysis report, Vietnam, India, Pakistan, Ukraine, and Kenya were the top five countries with the highest adoption rate of cryptocurrencies in 2021 [35]. More generally, by looking at the top 20 countries on this list, we observe that they are mostly from the Global South, or emerging countries. This trend is also visible in the global crypto ownership statistics [36]. There are several factors which can explain this trend.

To start with, many countries from the Global South rely on remittances from the local diaspora for a large proportion of their monetary income [37]. Remittances is the transfer of money from migrant workers back to their country of origin [38]. These transfers are usually done through a bank or operators and can take time. The cost of transaction is high, especially when the transfer is done through banks as the World Bank data base shows [39]. The use of cryptocurrencies, which doesn't rely on banks or intermediaries, is easing the transfer of money across borders, making it faster as well as lowering transaction costs. It also helps avoid currency conversion rates. Besides, it is making the transfer of money safer, as attacks and mugging regularly occur near banks and transaction offices [40].

A second observation which emerges from the Chainalysis 2021 report is the amount of crypto-exchange using P2P platform in comparison to on-chain exchange. The high rate of adoption and the high volume of P2P exchange suggests the absence of centralized banking possibilities in those countries [35]. Additionally, in many of these countries, there is no stable national monetary system. The countries cannot rely on the governments which are slow and corrupt [41]. Cryptocurrencies are therefore also used to preserve savings in a risk of currency devaluation.

Whereas in the Global South, Bitcoin is emerging as a way of transferring money and used as a payment method, in North America, Western Europe and Eastern Asia, the adoption has been mostly linked to investment, which has also proven successful. Overall, each region's reasons to embrace the asset has seemed to have proven compelling [35].

2.3.1 The Social perspective of Bitcoin

The permissionless design of Bitcoin, which makes the service available at all time to anyone around the world with an internet connection, has a large positive social impact. Millions of people can benefit from this technology which provides them with a financial inclusion and results in self-empowerment. In countries like Switzerland where the (digital) banking is considered as a safe establishment, the opportunities of social and financial independence provided by cryptocurrencies are not appreciated as much. However, for such countries, Bitcoin still has the advantage of being a decentralized system, where one does not have to trust a third party [29].

3 Analysis

3.1 Analysis of Existing Policies

Concluding from the research conducted in the previous section (*2 Factual Overview*), we can identify four main approaches that were taken by countries for Bitcoin regulations.

In the following, we will present them and discuss their advantages and disadvantages.

3.1.1 Investment Driven Policy

In this approach, the country's goal is to benefit from the adoption of cryptocurrency by participating in its development and its funding. This approach is taken by the likes of the USA and Switzerland. Both of them have a generally well functioning banking system and the citizens seem to trust their governments and their national banks. The countries taking this approach don't rely on Bitcoin as a payment system, but are more interested in exploring the possibilities of the blockchain technology and generating financial gains through investment in crypto-projects.

Being at the forefront of innovation is an advantage and since the citizens heavily use the local currency and banking system, there is no real concern from the local monetary system. Bitcoin is more widely seen as an investment instrument and thus also treated as such from the regulators.

The downside of this view is, that the law makers might not be fully aware of what the new technology is capable of. The fact that Bitcoin is also a decentralized transaction system might get lost or downplayed, when it is presented as just a new asset to make financial profit from.

As a neutral remark, we deem that most of the population in countries with this approach, don't understand Bitcoin well, as they don't use it in their daily lives. The exception are of course the investors and the developers.

3.1.2 Usage Driven Policy

The regulation is here trying to catch up with the adoption rate of the new technology. This is a very natural way of establishing policy, as it is introduced after a big part of the population is already involved with Bitcoin and understands the topic quite well. This is happening in Ukraine and Russia.

Since the public already has communities that are familiar with Bitcoin, they can help to guide regulations and advise the law makers. This might lead to rather Bitcoin friendly policies, since these countries, which are heavily using cryptocurrency are also interested in developing it further.

A problem arises here, if the government has different intentions than the crypto-communities. If they disagree on how cryptocurrencies should be regulated, then this might lead to tensions between public and government. These tensions can of course come up in any of the four approaches, but we see them as most relevant in this case, because the public's opinion might be stronger than in other cases.

3.1.3 Endorsement Driven Policy

In this strategy, the country's leadership takes a conscious decision to embrace Bitcoin and promotes participation in the network. In contrast to the *Usage Driven Development*, here the policy may precede the adoption of Bitcoin. This is the case in El Salvador, where only a very slim part of the population was using Bitcoin before it became legal tender. Countries using this approach, give up some control over the flow of money by not being able to regulate Bitcoin in the same way as one might with banks.

This strategy can really boost the adoption of Bitcoin, if the use is practical and easier than what it was before the policy got introduced. Giving citizens the choice to freely use Bitcoin without restriction opens the door to facilitated global trading and gives access to an international banking-like system. Thus, this strategy seems especially useful if these systems aren't in place already or the existing systems don't work well.

On the downside, this can seem really overwhelming for the public, if they aren't properly educated about the new transaction system. Besides, people could get frustrated with Bitcoin, if the mode of operation is tedious and badly implemented from a technical point of view. Furthermore, forcing a new currency onto a population, which is unfamiliar with it and prefers the current one, can rally the public against the government. In the case of El Salvador however, the government didn't "force" Bitcoin onto the people. Instead, it was introduced as alternative to the U.S. Dollar, which still holds its status as legal tender.

3.1.4 Control Driven Policy

In this approach, the country's government favours to be in control of its citizens' financial means, rather than allowing them to trade freely. This is the strategy that the Chinese and Nigerian governments decided to take. Depending on the country's situation, the decision to ban Bitcoin can be motivated by different reasons. For example if Bitcoin is mainly used by the citizens for money laundering, terrorist financing or other illegal activities, the motive is to uphold the law and put in an additional barrier for criminals. If Bitcoin is used to trade internationally, instead of through banks, the motive might be to prevent bypassing bank regulations. Other motives for a potential ban are: avoiding sanctions, unauthorized fundraising and environmental concerns due to Bitcoin mining.

The benefit of banning cryptocurrency is that no new regulations for crypto-exchanges need to be established. As such, the handling of crypto-related criminal activity becomes easier for law enforcement to take down, since any involvement with crypto is already illegal. Another benefit is that the local currency gets strengthened as law abiding citizens will have to use it instead of Bitcoin.

The problem with banning Bitcoin is that it is almost impossible to prevent trans-

actions if users already own a wallet and capital. It also prevents the government from collecting taxes on Bitcoin and the economy gets cut off from the crypto-industry. A ban can additionally result in rallying the crypto communities against the government, if there were already people relying on the use of cryptocurrencies.

In the case of China, where the state seems to have the upper hand, we observed that some crypto-communities migrated to other countries. In Nigeria, the crypto-communities didn't really migrate, but just switched to more stealthy ways of trading: through Peer-to-Peer transactions instead of crypto-exchanges.

3.2 General Recommendation

The cryptocurrency industry's market cap has grown significantly over the last few years, from \$18 Billion in January 2017 to around \$2 Trillion in January of 2022 and Bitcoin alone currently accounts for about 40% of that [42]. This means that Bitcoin is in the top 10 biggest assets, right behind Tesla, silver and Amazon. Bitcoin's market cap is also pretty much twice of that of Mastercard, according to CompaniesMarketCap.com [43]. This makes the crypto-space unignorable from an economic point of view and thus contributes to our opinion which is clearly against the ban of Bitcoin. Another problem with banning Bitcoin is, that it's practically impossible to enforce and investors will likely keep trading cryptocurrencies anyway, as a study about the effectiveness of China's ban has shown [44].

Additionally, we recommend that countries acknowledge cryptocurrency as a valuable asset, to be able to collect taxes on it. Although it is hard or even impossible from a technical point of view to confirm how much cryptocurrency a citizen is holding, this approach is still much better than ignoring it. Allowing citizens to trade cryptocurrency also opens possibilities for peer-to-peer global transacting, a banking-like system and decentralized financial instruments, which they might not have had access to before.

But there are a lot of challenges that come with Bitcoin. First off, it is near impossible to attribute transactions to users due to its cryptographic nature, which gives the users a pseudo-anonymity. This is a problem for monitoring criminal activities like fraud, money laundering, terrorist financing, tax evasion and even bypassing sanctions [45] [46]. Another aspect is dealing with the ecological concerns due to mining.

In short, we see no sensible long-term benefit from banning cryptocurrency. Thus we recommend governments to properly educate the public about this topic, ideally work with the local crypto-communities, if there are any, and oversee crypto-exchanges to hinder criminal activities. The technology is already here, it is being used and now it's the government's responsibility to set up a regulatory framework to deal with it.

3.3 Influence of Demographics

As was seen previously, the countries with the highest adoption rate are countries in development with a poor national banking system, if not without one. These populations rely on Bitcoin for quick, cheap, safe, and easy money transfers. This procures financial independence to the population by providing a safe monetary environment that the country does not provide. However, within this list of countries with high adoption rate, we notice that a fair amount of them have either not legalized, or outright banned cryptocurrencies[47]. Governments are suspicious of the implications of a decentralized and anonymous system and its possible criminal implications. The untraceable nature of the currency is making governments uneasy about the possibilities of criminal activities linked to Bitcoin [48]. The threat of terrorism funding and money laundering are key arguments for banning cryptocurrencies. Either way, money laundering risks are high in any decentralized system where value can be exchanged anonymously and without intermediaries[28]. This is the case for all countries. However not all countries are dealing with this in the same way. In some countries, there is also a misunderstanding of the technology, where the volatility and lack of tangibility of these currencies are being questioned. The Kenyan government for example issued a statement in 2015, where they expose their concerns over the threat of money laundering, terrorism financing, high volatility, and lack of intrinsic value of Bitcoin [49]. In Pakistan as well, the ban is based on the mistrust of Bitcoin and its possible use.

3.4 Criminal Activity and Bitcoin

”The 2022 Crypto Crime Report” by Chainalysis [50] shows an increase of 79% of illicit transaction volume in 2021 compared to the previous year. However, this remains very small compared to the overall transaction increase of 567%. As a matter of fact, illicit use of cryptocurrencies only accounts for 0.15% of overall transactions, which is the lowest it has been for the past five years. These statistics give a general idea of illicit behavior in the crypto-space, but we cannot track all illicit activities. Some criminal-activity related addresses are known but many remain unknown. One of the highest grossing forms of cryptocurrency-based crime in 2021 was scamming, with the likes of rug pulls. This trick is easily achieved thanks to the recent rise in popularity of DeFi (decentralized finance), as well as the facility to add one’s tokens onto the network without major checks. The second one is theft, or stolen funds, which has been growing for the last years, through targeted hacks for example. Money laundering is also a problem in the cryptocurrency space, as it also remains a threat in all forms of monetary networks. In crypto, a known value of \$33 million has been laundered since 2017, but it is estimated between \$800 billion and \$2 trillion in fiat currencies per year.

The thing is, the illicit use of cryptocurrencies will have a negative influence on the overall adoption rate and will most certainly increase the restrictions imposed by governments. But there is hope that law enforcement will have a better ability to seize illicitly obtained assets. The advantage of the blockchain, is that it's inherent transparency can make it easier to trace how criminals move their assets between wallets and into services. Some patterns emerge, like a high number of transfers just below \$1000, making them highly suspicious as it often represents a threshold of transfer control. Additionally, money laundering seems to revolve around only a small group of services which could easily be targeted by law enforcement.[50]

3.5 Influence of Technology

The acceptance of Bitcoin as payment method not only depends on the nation's regulations and the need of a censorship resistant currency but also on the correct implementation of third-party technology, for example the crypto wallet. El Salvador seems to be an excellent example for miscalculating or neglecting the importance of a flawlessly working application.

In January 2022, the Salvadorian government stated in a report that 4 million users, which is almost the entire Salvadoran population, already downloaded the government's wallet called Chivo and had been verified as authentic users. Two months after, a survey published by the Chamber of Commerce and Industry of El Salvador revealed that 86% percent of the wallets haven't conducted a single transaction using Bitcoin so far. [51]

Interviews with citizen exposed that the project had struggled from the beginning. Chivo, the digital wallet made by the Salvadorian government, doesn't work as intended and technical glitches occur on a daily basis. Some users claim that their transactions got lost others couldn't even enter the app after the authentication. Another problem seems to be the lack of Bitcoin ATM's where citizens could change their cash into Bitcoin and vice versa.

While the problems in El Salvador seem to be purely coming from the government's app and the missing infrastructure there is no doubt that those failures have a massive impact on the acceptance of the Bitcoin blockchain in El Salvador.

Nayib Bukele, the president of El Salvador, promised that using this new technology would reduce the remittance fees and digitize the country's economy. Now, half a year later most citizens won't use the app anymore, because of the stated problems above. Even Bukele realized that his goal of making Bitcoin a legal tender was too ambitious and that it takes more time and preparation to get the Salvadorans to adopt Bitcoin.

3.6 Effect on Bitcoin

While countries like China and Nigeria successfully banned crypto transactions from their traditional banking system, they are not capable of stopping citizens using or even mining Bitcoin.

For example, China has one of the strictest crypto bans in the world but still accounts for about 20% of the world's Bitcoin mining. Compared to its all-time high of about 75%, 20% is substantially less than before the ban. However, the government couldn't enforce a mining stop and so far, miners seem to evade detection. They do so by connecting their mining farms directly to smaller, local power sources instead of drawing electricity from the grid. Additionally, miners conceal their geographic digital footprint. [52]

Disobeying the law and using crypto currencies is not only something that is done by hard-core crypto believers or miners. In nations like Nigeria citizens adopted to the changed circumstances and avoid the ban by simply using Peer-to-Peer (P2P) transactions. These P2P platforms are non-custodial and so customers can trade amongst themselves without the need of an exchange platform. The government can't track P2P transactions and bank transactions for paying for the received Bitcoins is also not distinguishable from other, legal bank transactions. [53]

So far, Bitcoin seems to stand up to its promises to be permissionless, censorship resistant and immune to seizure. Therefore nations regulations might impede citizens to buy cryptocurrencies, but they can't really stop them from using it.

4 Conclusion

4.1 Final Recommendation

As we've seen in part 3.2, we don't encourage the banning of Bitcoin because we don't see it as a viable situation for the future. Instead, we encourage governments to recognise cryptocurrencies as valuable assets. However, due to the decentralised nature of Bitcoin, it isn't in favour of a government to encourage its adoption and use. A country benefits more from the population using the national currency as it helps the national economy, can be tracked and taxed. But we believe that if countries decides to legalise Bitcoin, whether as an asset or legal tender, they should provide information about the benefits and risks of the technology in a neutral way. In our opinion, it's the government's responsibility to create a set of trustworthy accessible material that educates the population on the benefits and risks of using Bitcoin. It should cover the basics of cryptography, what keys are and how the blockchain system works. They should also protect the population by clearly explaining the risks of cryptos as well as what scams are and how scamming can occur. This way they are providing the tools to anyone interested in investing in Bitcoin.

We think that a government should not try to impose the use of Bitcoin to the population. Instead, they should try and let it grow on its own and at its own pace.

4.2 Outlook

In this paper we have provided a wide spectrum of reasons why and how Bitcoin is adopted by different people in different countries, as well as various regulations attached to its adoption, use and ownership. We believe that Bitcoin is paving the way for the future, and is not just a fashionable trend. Unlike other crazes, Bitcoin's purpose isn't just superficial and for entertainment. Instead it responds to certain important ethical and social questions.

In Switzerland we are lucky enough that our banking system is safe, quick, secure and trustworthy. But we are not sheltered from it collapsing in the future. The current global economic and political system is not stable. Inflation is growing, countries are at war, and climate change will expose us to additional challenges.

Lets emphasize one of the main arguments of Bitcoin, which is cited in the white paper. It relies on the absence of a third party. This is exactly the point which, in an unstable global system, will be considered as a huge blessing.

Incidentally, this is where it plays a role in the Ukraine-Russian conflict. This conflict has shown us how banks and nations can spontaneously decide to freeze accounts, and reduce the livelihood of people. In Ukraine, where the country is ravaged the use of Bitcoin can help the population access and store money through an internet based device. Even if their banking system had been really safe and secure, the system would be barely functioning, as it requires human labour to operate. Bitcoin on the other hand has been used for donations to rebuild the country, for military expenses and different purchases.

Although Bitcoin plays a major role in the Ukraine, the properties of Bitcoin make it an instrument of support on both sides of the conflict. The Russians could therefore be using it to avoid international sanctions. While it is theoretically possible to avoid sanctions the U.S. National Security Council official denied such arguments and called Bitcoin an ineffective tool for sanctions evasion. Technological barriers, market structures and the limited liquidity make it impractical for the Russians to use at such scale.

But amongst all the other things, Bitcoin is helping everyday, non fighting citizens on both sides to reduce the impact of the war, the bans and restrictions. [54] [55]

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