



**SHISHUKUNJ MUN**

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# Study Guide

**United Nations Commission on  
Science and Technology for  
Development**

**Agenda: Regulation of Cryptocurrency Along  
with its Impact on Global Inflation**

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## Letter from the Executive Board

To the veterans of MUN,

We promise you a very enriching debate that you've never experienced before and to the new-comers, we are really excited to be a part of your maiden voyage. As the world looks to come out of a rather 'depression' ridden economic environment and the world talks about a long standing 'power shift' to the east happening soon, the importance of our generation being 'ready enough' to accept various challenges that lie ahead of us can hardly be over stated. What we desire from the delegates is not how experienced or articulate they are. Rather, we want to see how they can respect disparities and differences of opinion, work around them, while extending their own foreign policy so that it encompasses more of the others without compromising their own stand, thereby reaching a unanimously acceptable practical solution. The following pages intend to guide you with the nuances of the agenda as well as the Council. The Guide chronologically touches upon all the different aspects that are relevant and will lead to fruitful debate in the committee. It will provide you with a bird's eye view of the gist of the issue. However, it has to be noted that the background guide only contains certain basic information which may form the basis for the debate and your research. You are the representative of your allotted country and it is our hope that you put in wholehearted efforts to research and comprehensively grasp all important facets of the diverse agenda. All the delegates should be prepared well in order to make the council's direction and debate productive. After all, only then will you truly be able to represent your country in the best possible way. We encourage you to go beyond this background guide and delve into the extremities of the agenda to further enhance your knowledge of a burning global issue.

If you have any doubts or queries regarding the agenda or the committee in general, please do not hesitate to contact us.

Sincerely,

Dravya Shah, Chairperson

Neelamber Gupta, Vice-Chairperson

Nikunj Rathi, Rapporteur

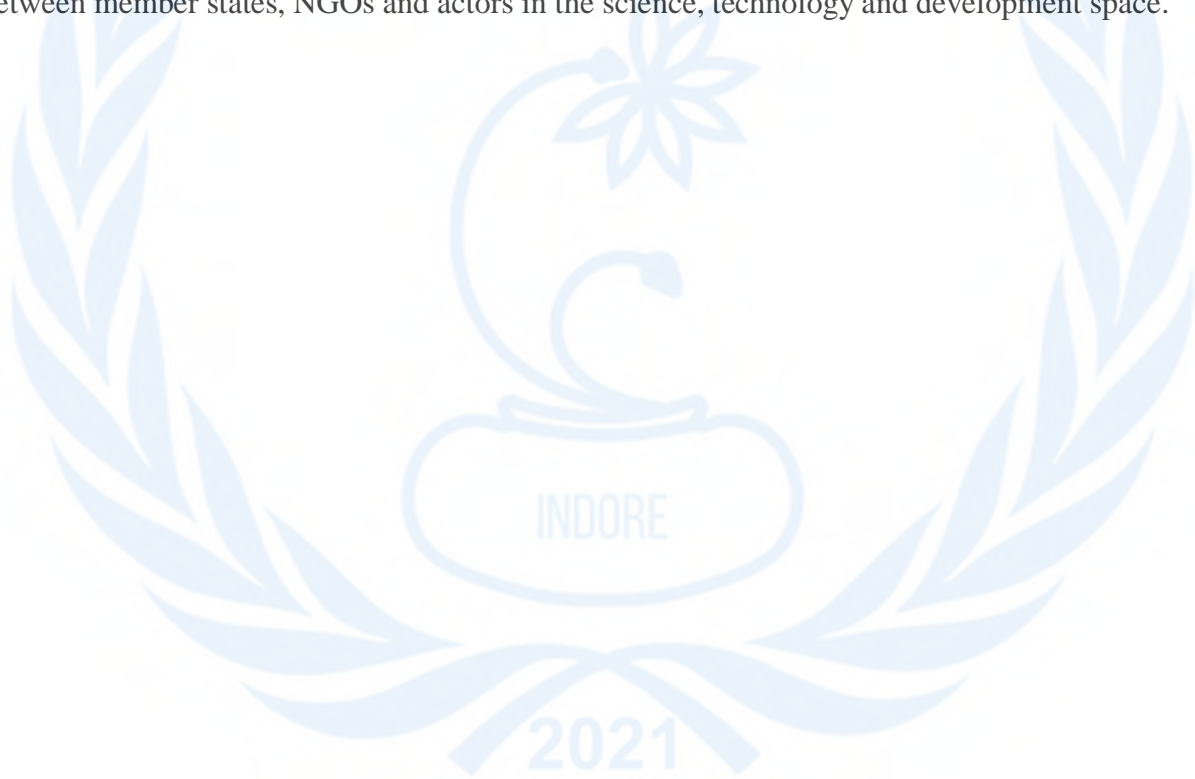
## Introduction to the Committee

The United Nations Commission on Science and Technology for Development (CSTD) is the United Nations' home for discussions on science and technology – what is new, what matters, what is changing, what the impact is – and how this affects development and a sustainable future for all.

It is the forum that helps ask and frame the critical issues influencing the fields of science and technology today.

Some of the important normative issues raised include the technology and life interface, as well as governance of the use and development of frontier technologies – namely, big data analytics, biotech and genome editing, the Internet of things (IoT) and artificial intelligence.

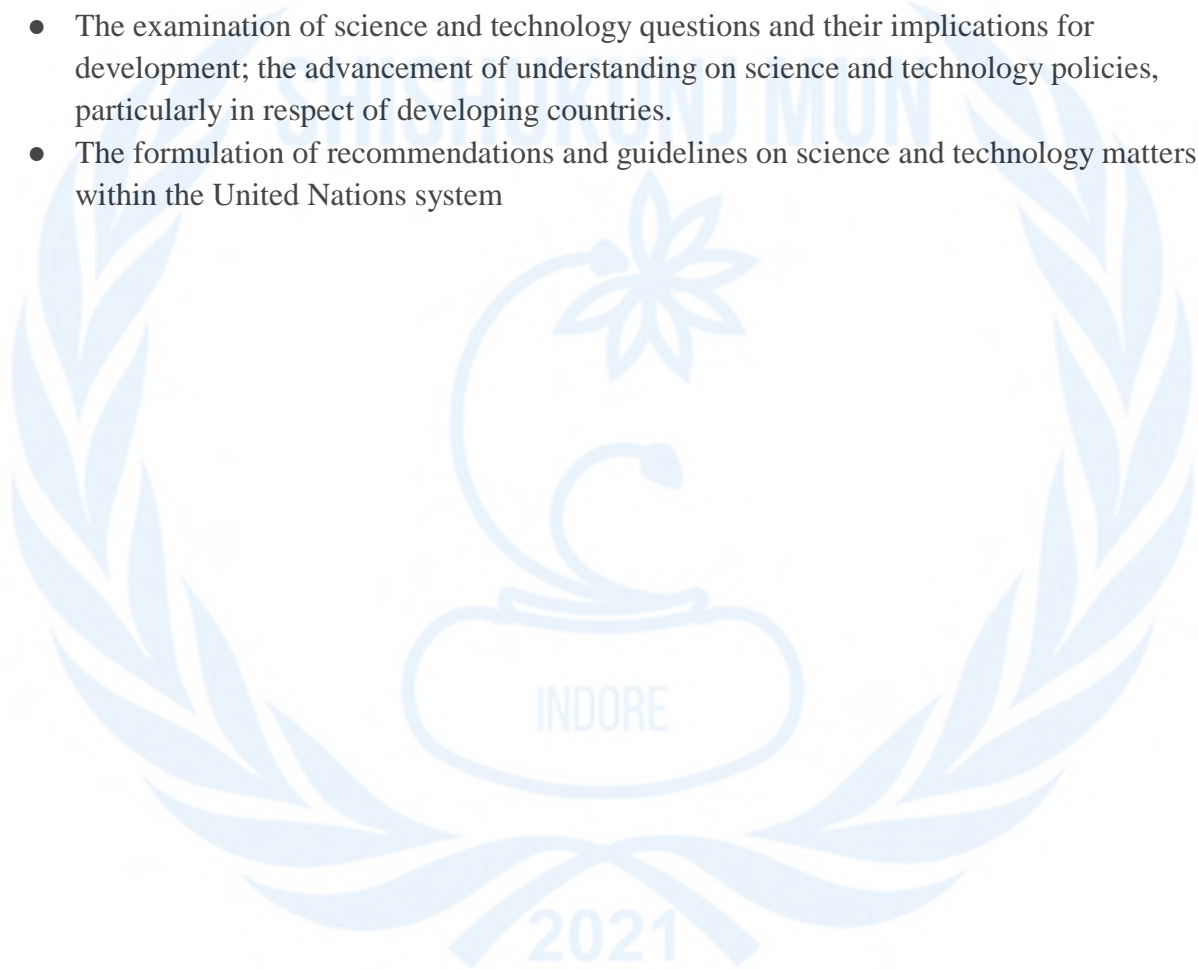
The CSTD is also an open platform where proposals, ideas, experiences, cases, and intellectual thought can be channeled toward making a policy impact. It facilitates concrete collaborations between member states, NGOs and actors in the science, technology and development space.



## **Mandate of the Committee**

The United Nations Commission on Science and Technology for Development is a subsidiary body of the Economic and Social Council (ECOSOC). It was established in 1992 as a result of the restructuring and revitalization of the United Nations in the economic, social and related fields. The Commission provides the General Assembly and ECOSOC with high-level advice on relevant issues through analysis and appropriate policy recommendations or options in order to enable those organs to guide the future work of the United Nations, develop common policies and agree on appropriate actions. The Commission acts as a forum for:

- The examination of science and technology questions and their implications for development; the advancement of understanding on science and technology policies, particularly in respect of developing countries.
- The formulation of recommendations and guidelines on science and technology matters within the United Nations system



## Introduction to the Agenda

A cryptocurrency is a type of a digital asset or a financial instrument<sup>1</sup> based on a network that is distributed across a large number of computers meant to execute payments/transactions. This financial instrument is usually unmonitored and unregulated by the governments or any higher authorities and are generally privately owned. Cryptocurrencies are a genuine monetary invention and has been outperforming legal tenders<sup>2</sup> all around the world in a natural free market competition.

Blockchain is the technology working at the core and empowering all the popular cryptocurrencies like Bitcoin, Ethereum, Litecoin etc. It allows for a system where every user has access to the ledger<sup>3</sup> of transactions. This means that the account is verified among the users, without the need for an authority to keep track of the transactions and create trust in the system. At the same time, it allows users to remain in relative anonymity, as even though there is an accessible record of all transactions, it often requires vast resources and determination to track the transaction to a real-life person. Both the decentralized character and anonymity of the system carry some advantages but also some risks for individual states and the international community.

The controversy surrounding cryptocurrencies leads states to adopt different strategies in approaching them. While some states such as the US allow cryptocurrencies to flourish, other states such as Algeria ban them altogether. Given that cryptocurrencies defy national borders, this discrepancy presents a challenge for the international community. What is also noteworthy is the fact that the method to obtain certain cryptocurrencies has lead to heavy environmental degradation in various regions. The anonymity cryptocurrencies offer to its users has also lead to it being used in illegal transactions. From an economic perspective, while speculative due to lack of sufficient data many believe cryptocurrencies can cause global inflation as opposing to inflation-proof functioning and architecture.

How to find a reasonable compromise which would balance the advantages and disadvantages?

The following pages should provide you with some basic information needed to eventually answer this question.



## Introduction to Cryptocurrencies

As stated earlier, blockchain is the technology working at the core and empowering all the popular cryptocurrencies like Bitcoin, Ethereum, Litecoin etc. Essentially it is a form of digital money traded on online platforms known as 'exchanges', the intention behind the existence and creation of cryptocurrency was to create an inflation-proof<sup>4</sup> payment method. Cryptocurrencies aren't based on assets like gold nor do they go through any traditional financial institutions like banks, instead these currencies operate on a decentralized system called "Blockchain" to track transactions.

Let us now understand how these transactions work- say that Person A wants to buy a product from Person B using Bitcoin, her choice of cryptocurrency, Person A now logs into her Bitcoin wallet with a private key which is essentially a combination of alphabets and numbers. Now, in a traditional financial transaction the money gets deducted from one bank account and gets added to the receiver's bank account, but in this scenario there is no involvement of banks. Rather, Person A's transaction gets shared with everyone in the Bitcoin network, these networked computers add Person A's transactions to a shared list of recent transactions known as a 'Block'. Every 10 minutes the newest block is added on the previous blocks or is chained to the previous blocks; that's how we get a Blockchain, to ensure that each Block of transactions on the chain is verified a protocol that goes by the name of 'proof of work' is established, under which a subset of Bitcoin's network join a race to solve a very hard mathematical puzzle, which if they solve first, their record of the Block of transactions becomes the official record. They are rewarded with Bitcoins of their own and the network gets a new block on the chain. This process is known as mining. The fact that many computers are competing to verify a block ensures that no single computer can monopolize the Bitcoin market. To ensure the competition stays fair and evenly timed, the puzzle becomes harder when more and more computers join in. The Bitcoin protocol says that mining will continue until there are 21 million Bitcoins in existence. According to experts, that is set to happen somewhere around the year 2140.



## History of Cryptocurrencies

The first one to envision ledgers verified by users was the sci-fi writer H. G. Wells in the 1930's. As the Internet started developing in the late twentieth century, the idea was popularized among the online community. Eventually, in 2008 a person/group under the pseudonym Satoshi Nakamoto published a paper outlining the Blockchain technology (Campbell-Verduyn, 2018). It was proposed as a means to solve the problem of high transaction costs and the need for anonymity connected to trading on the Internet. Although it is not clear who Satoshi Nakamoto is or was, the paper started circulating and in 2009, Bitcoin was created based on this idea. To this day, Bitcoin largely remains the most popular cryptocurrency and it is this paper's main focus, except where otherwise provided.

The blockchain technology slowly started gaining attention and other, also cryptocurrencies were created. The first main public event is connected to the WikiLeaks affair of 2011. After revealing classified information related to the US involvement in Afghanistan, many banks and financial service providers refused to process donation payments to WikiLeaks. In reaction, Julian Assange, WikiLeaks founder, announced that the platform would start accepting donations in Bitcoin (Campbell-Verduyn, 2018). Despite the media attention, cryptocurrencies remained restricted to the online geek community. This started changing in 2013 as Bitcoin began to be mentioned in the media in relation to the Silk Road, an online market for illegal services. At the same time, also positive features of cryptocurrencies surfaced, such as the alternative means to controversial quantitative easing of central banks after the financial crisis of 2008 (Campbell-Verduyn, 2018). Thanks to the media attention, it started to be an interesting speculative investment opportunity (Hałaburda and Sarvary, 2016).

The exchange value of Bitcoin kept rising and falling but at the end of 2013 it reached 1200 USD. In relation to the initial value of below 15 USD in the beginning of 2013, it is indeed astonishing (Hałaburda and Sarvary, 2016). With the rise of public awareness, cryptocurrencies began to be incorporated into the global economy. More service providers, such as AirBnB or eBay started accepting Bitcoin as a possible means of payment (Campbell-Verduyn, 2018). Alongside this development, policy makers became interested in regulating cryptocurrencies. In 2013, the US Senate held a hearing on Bitcoin. The potential risks were stressed but overall, the positive side prevailed, and the hearing was not followed by any regulation. Other countries took a different approach. China banned its banks and other financial institutions from using cryptocurrencies. Vietnam made use of cryptocurrencies illegal. (Hałaburda and Sarvary, 2016). In this context, it is worth reviewing the potential advantages and disadvantages of cryptocurrencies.

## New Challenges

Naturally, there are also some drawbacks in the Bitcoin system. The ledger is updated by the so-called miners, and, in the process, a considerable amount of computational power is necessary, which relates to high energy consumption. Some cities start to voice concerns, with New York State Department of Public Service reporting that “these companies [miners] are using extraordinary amounts of electricity – typically thousands of times more electricity than an average residential customer would use”. The Department is also linking Bitcoin mining to rising cost of energy for regular residents. With Bitcoin’s energy bill exceeding that of Austria, a part of the Bitcoin community is also worried about the sustainability and carbon footprint of the system and is trying to think of alternative solutions.

Another concern for the Bitcoin community is the potential for a monopoly<sup>5</sup>. When miners compete for the reward, only the first miner to validate the transaction receives it. This means that all others incur a cost but do not get the reward, which is why being a lone miner is risky. Instead, miners have the incentive to join a ‘mining pool’ to share the costs and rewards with each other. In case such a mining pool reached a share of 51% of the validation operations in the whole market, the whole system would be at mercy of a single entity capable of influencing the whole ledger and everybody’s money. This risk is called the “51% attack”. In 2014, GHash.io, one of the leading mining pools, was reported to have reached over the 51% of the mining power in the network. The Bitcoin community became worried. Even though all actors had the incentive to upkeep the system, the element of independent control was suddenly gone and a summit of key Bitcoin figures, mining hardware manufacturers and biggest mining pools was organized to address the problem. GHash.io made a voluntary pledge not to exceed a 40% limit and encouraged others to do the same. The summit resulted in the creation of a committee run by GHash.io to address the problem more permanently. Some see this example as a verification of the self-regulatory potential of cryptocurrencies. Others point out instances of other cryptocurrencies which are facing problems as well. In May 2018, Bitcoin Gold, the 26th largest cryptocurrency, was under a 51% attack and a worth of 18.6 million USD was stolen. Finally, cryptocurrencies are often considered to be a very risky financial investment. Not being backed by any central authority or any underlying fundamentals to guide the price, they can be quite volatile, making them into a candidate for the next financial bubble<sup>6</sup>. A case in point is Bitcoin by the end of 2017, when it lost almost half of its value. If cryptocurrencies become more embedded in the global economy, the risk that individual holders face could spread into the broader financial sector. Given the increasing interconnectedness of the world, this could be a matter of concern to the international community. This leads us to consider the risks of cryptocurrencies from the point of view of states.

## **Potential of Cryptocurrencies**

### **1) Cryptocurrencies as Viable Payment Methods**

The use of Blockchain for payment system is without doubt one of the exciting new developments in the finance industry since the last few decades. However, the highly volatile<sup>7</sup> pattern exhibited by cryptocurrencies makes them a very poor choice to be used as a medium of exchange or a unit of account, especially for long-term contracts or payments that underpin the modern economy. A volatile asset can be used to purchase something like a meal or a dress, but it is hardly useful when it comes to employment or supply chain contracts that companies sign over the years. Recently we have seen a few companies develop cryptocurrencies which are also referred as ‘stablecoins’ such as Facebook’s Libra (called Diem now). They are much more stable because they are backed by sovereign currencies such as the US Dollar or commodities such as gold and are designed to be used for payments in the traditional financial system as well.

### **2) Use of Cryptocurrencies in Illegal Transactions**

A more imminent problem often mentioned in relation to cryptocurrencies is the funding of illegal activity. Although, it is true that all transactions are recorded, Bitcoin wallets, through which transactions are made, can be created without the supervision of any financial institution. Thus, users are able to create their own financial products which makes any supervision or tracing quite complicated. This limits the ability of state authorities to prevent funding illegal activities such as drug trafficking or organized crime, creating also a transboundary problem. This risk is not hypothetical. As mentioned earlier, Bitcoin was chosen for its anonymity as a preferred means of payment on the dark web server, Silk Road. Estimates from early 2018 say that a quarter of Bitcoin users and a half of all Bitcoin transactions are related to illegal activities (Foley et al. 2018). Another challenge is that cryptocurrencies can be used to circumvent international economic instruments such as sanctions or capital controls. By bypassing the traditional payment system, people were able to purchase Bitcoins and then obtain otherwise heavily regulated or unavailable foreign exchange online. Such cases were reported in China, Venezuela, Cyprus and Greece (He et al., 2016).

### **3) International Transactions and Taxation Policies**

There are some obvious advantages of cryptocurrencies. They are resistant to counterfeit<sup>8</sup> and represent a solution to the double spending problem<sup>9</sup> - it is clear where each Bitcoin is and it cannot be spent twice. Other advantages relate to its accessibility and the role that cryptocurrencies could play in elevation from poverty. Providing people with cheap and accessible basic financial services is one of the ways. Having a Bitcoin wallet instead of an

expensive credit card could provide an alternative to small businesses and individuals in less developed economies. In addition, Bitcoin can provide a cheap way to send remittances<sup>10</sup>, on which the economies of some developing countries are relatively dependent. This is important as remittances are generally correlated to economic development in the receiving countries. Currently, the high costs of processing remittance payments are attributed to underdeveloped financial systems, lack of access to banking services and insufficient market transparency<sup>11</sup>. These problems could be addressed through an increased use of cryptocurrencies. Nowadays, the massive spread of smartphones has already made mobile payments very attractive, with cryptocurrencies possibly following the same development (Trautman and Harrell, 2017). While some risks present an immediate challenge, some are more remote. One of the purely theoretical risks at this point is the threat that cryptocurrencies present to the financial stability and monetary policy of any country. If cryptocurrencies become more popular, they could start to compete with the traditional banking system, threatening with the loss of control over money supply<sup>12</sup> and the lender-of-last-resort<sup>13</sup> capability. Again, the volume of cryptocurrency transactions so far is nowhere near the level where it could present a systemic threat<sup>14</sup>. Cryptocurrencies are also problematic when it comes to taxation. Transactions taking place across borders and without the need to reveal one's identity involve the temptation not to be reported and the countries lack effective means of enforcement of tax evasion<sup>15</sup> rules (He et al., 2016). Some say that cryptocurrencies should be taxed just like any other investments and financial assets. (Dabrowski and Janikowski, 2018)



## Cryptocurrencies and Inflation

The US Federal Reserve defines inflation as the increase in the price of goods and services over time, but there is more than one definition to it, few economists like to associate inflation with a change in the money supply in an economy, or the total amount of money in circulation. Cryptocurrencies ideally have a finite pre-defined supply, making the argument that printing more money decreases its value or leads to inflation. When there is a change in the relative quantity of two goods, the one that is increasing in quantity tends to get cheaper, we can notice this pattern in the foreign exchange market very frequently, for e.g. Mexican Pesos and US Dollars, the reason as to why the value of Mexican Peso have been relatively lower to the US Dollar is because there simply more of it out in the market, this causes it's value to go down in the exchange markets. Cryptocurrencies like Bitcoin not only predefines a roof limit to the supply but also ensures the growth in the supply is limited in an economy at any given time such that its value rises until the limit of twenty-one million is achieved and then stabilizes, idiosyncrasies<sup>16</sup> aside.

“If you increase your money supply, you may or may not get an increase in the consumer price level depending on what else is going on in the economy at the time. So there are a number of other factors to consider,” -Frances Coppola

Bitcoin as a financial instrument was proposed at a time when there were fears that a sharp increase in the supply of traditional fiat currency<sup>17</sup> also known as quantitative easing would cause global inflation, however global inflation has muted since then, and much of the recent fear about resurgent global inflation is derived from supply-chain disruptions due to the pandemic rather than excess money supply. Currently there are 18.812 million Bitcoins in circulation, or nearly 90% of all potential supply, however, even if the supply of a single cryptocurrency is tightly controlled, the supply of all possible cryptocurrencies is not subject to any control. The reason simply being there no to way to prevent private cryptocurrencies from joining the party with the laws we have right now. There has been a surge in the number of cryptocurrencies in the recent years, many of these have a more flexible protocol of supply. Also, while much attention is now focused on the price of individual cryptocurrencies against a traditional monetary standard such as the US dollar, far less attention has been paid to how they are priced against each other—their relative prices, Ethereum, currently the second most important cryptocurrency after Bitcoin, has no supply limit written into its design. There are nearly 116 million units of Ethereum in circulation currently. And there are 129 billion units of Dogecoin available right now. The website ‘Coinmarketcap.com’ currently lists 5,145 cryptocurrencies being traded. Nineteen of them have a market capitalization of over \$10 billion. Now imagine a global economy with contracts written in thousands of volatile privately-owned cryptocurrencies, such circumstances will force the economy to completely collapse. Cryptocurrencies are better suited as investment assets, as they are mostly being utilized currently, though they are susceptible to roller-coaster rides, since there is no way the supply can

adjust to swings in demand. Private cryptocurrencies should ideally be treated as risky investment assets rather than currencies, even as central banks begin work on using blockchain to issue a new form of sovereign money. Many cryptocurrency enthusiasts see them as protection against the high inflation that central banks tend to unleash on the world. However, cryptocurrency prices have soared during a decade when much of the world was battling deflation rather than inflation. In case the recent inflationary momentum picks up, it will be worth seeing which way cryptocurrency prices move.

“The idea of a private, frictionless payment system with 2.6 billion active users may sound attractive. But as every banker and monetary policymaker knows, payment systems require a level of liquidity backstopping that no private entity can provide. Unlike states, private parties must operate within their means and cannot unilaterally impose financial obligations on others as needed. That means they cannot rescue themselves. They must be bailed out by states, or be permitted to fail,” Katharina Pistor of Columbia Law School wrote in an essay published in 2019.



## Cryptocurrencies as Legal Tender

Cryptocurrencies are so far accepted as legal tender in two ways. The first is making a Central Bank Digital Currency and the other is adopting a privately-owned cryptocurrency such as bitcoin as legal tender, while 80% of all central banks were looking into central bank digital currencies, there, so far has been only one instance of adoption of a privately-owned cryptocurrency as legal tender.

**1. Adopting privately owned Cryptocurrency as legal tender: On September 7, 2021, the Republic of El Salvador adopted bitcoin as legal tender along with the US Dollar. This step was taken by President Nayib Bukele despite warnings from both the IMF and the World Bank.**

The IMF believes that in most cases, the use of such crypto-assets, risks and costs outweigh potential benefits. It believes that the value of bitcoin is extremely volatile, for example, in April 2021 the value of bitcoin reached \$65000 and then crashed to less than half the value just 2 months later. While the use of crypto-assets like bitcoin will lead to currency being readily available and easily transferable, people will seldom use such crypto-assets to store value and the money would instantly be exchanged to normal currency for safekeeping. The change to crypto-assets can also lead to the current monetary policy losing its grasp, as central banks cannot set interest rates on foreign currency. The result of the same will be instability of domestic prices, even if all prices were quoted in bitcoin, the prices of imported goods and services would fluctuate massively. The IMF believes that governments need to step up to provide these services, and leverage new digital forms of money while preserving stability, efficiency, equality and environmental sustainability. Attempting to make crypto-assets a national currency is an inadvisable shortcut. (IMFBlog, 2021)

The World Bank too rejected a request from El Salvador to help with the implementation of Bitcoin as legal tender after the finance minister Alejandro Zelaya asked the World Bank for technical assistance with the implementation of cryptocurrency as an official method of payment. A World Bank spokesperson told the Reuters news agency that the World Bank cannot support the Salvadorian governments move because of environmental and transparency shortcomings.

The move was taken as around 20% of El Salvador's GDP relies on remittances, which is money sent home from abroad. More than two million Salvadoreans live outside the country, sending back more than \$4bn each year. The adoption of bitcoin as legal tender will make it easy for the Salvadoreans living abroad to send money home. Despite this, a survey conducted by UCA, a Jesuit university based in El Salvador showed that at least

67.9% people disagree or strongly disagree with the government's move to make bitcoin legal tender. Also, on September 8, just one the after the adoption of Bitcoin in El Salvador, the value of Bitcoin decreased by a staggering 17% due to its adoption.

**2. Central Bank Digital Currencies: Central Bank Digital Currencies is like a digital banknote, it could be used by individuals to pay businesses, shops or each other or between financial institutions to settle trades in financial markets. Such CBDC are being looked into by 80% of all central banks worldwide due to a decline in cash payments. The decline in cash payment results in a need of a new form of currency, which can be used digitally. CBDC's while being digital is also regulated by the central bank making it more reliable than other forms of digital payments.**

Bahamas released its own CBDC called the Sand Dollar in October 2020, the Sand Dollar was piloted just months after hurricane Dorian struck the Exuma and Abacos island chains to 'disaster-proof payments', when banks and ATMs are physically damaged by natural disasters, the sand dollar can be used as a method of payment and providing aid. In addition, the Bahamas is spread out over 700 islands, making it unprofitable for commercial banks to have ATMs or physical branches on remote, sparsely populated areas. As a result, the most vulnerable often lacked financial services, but by the introduction of the Sand Dollar, it may be possible for them too, to gain access to financial services via their mobile.

China has been developing its CBDC, the e-yuan since 2014, in June 2021, about 21 million. China believes the e-yuan will lessen and eventually eliminate the use of alternate payment methods like Alipay, credit cards and debit cards. The Chinese government believes that this will provide better data to the central bank and other government bodies. The government would have instant awareness of purchases and transfers and may even know the geographical location of the activity. It would also mean greater consumer efficiencies and analytics, instead of having stored value on many platforms like a phone app, a transportation app, etc. This would also make it easy for citizens to know where they are spending as they are spending everything by just one app. The e-yuan would also provide a greater ability to monitor. A digital yuan can be used to steer people away from other digital currencies like bitcoin and keep data onshore. Sweden started the development of its CBDC due to a huge decline in payments by cash in the country. In 2020, only 9% of all payments were made in cash in Sweden. Due to such decline in cash, it had become a necessity for the Riksbank, which is Sweden's central bank, to launch its own CBDC, the eKrona. The project was launched to prevent future problems that may arise due to a decline in cash. The eKrona would benefit the Swedish population, as it is risk-free money to the public and would be accessible to all. In addition, they would be able to use the eKrona, which is much more reliable than the credit and debit cards, which are majorly used as a source of payment in Sweden.



It looks like Central Bank Digital Currencies have a promising future but there are still challenges that need to be resolved such as the introduction of CBDC's would lead to the central banks having a much larger role in the retail sector as well as maintaining accounts of CBDC owners as well as companies and organizations. In addition, the financial system would have a drastic change due to the entrance of the central bank in the retail level for digital payments. The IMF is quite positive about central bank digital currencies and it believes that it will play a major role to regulate, design and provide a way that allows countries to maintain control over monetary policy during this transition from conventional currency to digital currency. It also believes that the opportunities opened by CBDC's are immense if the risks are carefully managed.



## **Adoption of Cryptocurrencies by Big Companies and the General Population**

Companies like Visa, Amazon, Facebook, Tesla and PayPal are keen on the future of cryptocurrencies. Visa CEO Alfred Kelly describes conventional and untethered cryptocurrencies like bitcoin as a tradeable asset with limited industry potential, he also describes them as 'digital gold'. However, Visa sees significant potential for payments in stablecoins such as tether and USD Coin. However, Visa believes that these solutions are not as long term as the introduction of Central Bank Digital Currencies.

Amazon advertised a new job opening for a digital currency and blockchain product lead in July 2021. In addition, an unnamed insider told London's City AM newspaper that Amazon was definitely pursuing Bitcoin payments in the near future. Amazon denied the report by the City AM newspaper telling that Amazon may accept bitcoin payments in the near future.

Facebook has plans to launch its digital currency Diem this year in the United States. Diem is a stablecoin that would directly be linked to the US Dollar. Such a cryptocurrency would allow Facebook to build a worldwide financial system within itself and would make the company's ad network more profitable and lucrative.

Tesla, the electric automobile manufacture is leaded by its co-founder Elon Musk who is a staunch supporter of cryptocurrency. It announced that it bought bitcoin worth \$1.5 Billion on February 8 2021. In addition, Tesla used to accept payments by Bitcoin but stopped when environmental concerns were raised against crypto mining. It is likely that the company will start taking bitcoin payments again as Tesla has conducted research on the amount of renewable energy used for crypto mining and realized that it most likely is at or above 50%. In addition, PayPal, another company founded by Elon Musk allows users in the US to buy, sell, hold and checkout with Cryptocurrencies like Bitcoin, Ethereum, Litecoin and Bitcoin Cash.

While, the adoption of cryptocurrency by large companies looks positive, its adoption by the general population has received mixed results. While, in Finland, the refugee crisis is being solved by making credit cards with smart contracts for refugees using Ethereum, these smart contracts automatically subsidize things bought by the refugees and take a check on their average income to make sure they stop getting subsidies once they become self-sufficient. On the other hand, in El Salvador, a day after the adoption of bitcoin as legal tender, the prize of bitcoin fell by 17% making the population skeptical about the change. The adoption was made despite protests against the change, a survey conducted by pollster Disruptiva showed that about 54% of people viewed the bitcoin adoptions as "not at all correct" while another 24% describe it as "only a little correct".

## **Environmental Effects due to Crypto-Mining**

As stated earlier prominent cryptocurrencies use a ‘proof-of-work’ protocol, instead of storing account balances in a central database, cryptocurrency transactions are recorded by a distributed network of miners, incentivized by block rewards. These specialized computers are engaged in a computational race to record new blocks, which can only be created by solving mathematical puzzles, while this system has its advantages like, it does not rely on any intermediary or single point of failure it completely relies upon computational power, one of the main concerns among people is that mining tends to become less and less efficient as the prices and supply increases. In the case of Bitcoin, the mathematical puzzles keep getting harder as the supply increases, but the transaction throughout remains constant. Meaning as time passes and supply increases the network will consume more & more computing power and energy to process the same number of transactions.

Bitcoin, the most widely-known cryptocurrency network, uses 121 Terawatt-hours of electricity every year, the BBC reported in 2021—more than the entire country of Argentina. According to Digiconomist, a cryptocurrency analytics site, the Ethereum network uses as much power as the entire nation of Qatar.

All of this has combined to link cryptocurrencies with fossil fuels in a way that many investors have yet to acknowledge. According to researchers at the University of Cambridge, around 65% of bitcoin mining took place in China, a country that gets most of its electricity by burning coal, however, after last June mining of cryptocurrencies were banned in China. In addition to energy consumption, cryptocurrency mining also generates a significant amount of electronic waste as hardware becomes obsolete. This is especially true for Application-Specific Integrated Circuits, specialized hardware for mining the most popular cryptocurrencies. Unlike other computer hardware, these circuits cannot be reused for any other purpose, and they quickly become obsolete.

According to Digiconomist, the bitcoin network generates between eight and 12 thousand tons of electronic waste every year.

It's also worth noting that a large number of cryptocurrencies have negligible environmental consequences. In particular, ‘proof-of-stake’ blockchains like EOS and Cardano do not have mining, allowing transactions to be processed with the same energy requirements as an ordinary computer network.

Although this model has clear advantages over mining, it is difficult for an established network to transition to a new consensus mechanism. Ethereum is expected to upgrade to a proof-of-stake blockchain, but the proposal has been disputed by miner

## Glossary

1. Financial Instruments: Financial instruments are monetary contracts between parties. They can be created, traded, modified and settled.
2. Legal Tender: Legal tender is a legally recognized payment instrument used to fulfil a financial commitment.
3. Ledger: A ledger is a book or collection of accounts in which account transactions are recorded.
4. Inflation-proof : An inflation-proof investment is one whose value increases based on the rate of inflation.
5. Financial Instruments: Financial instruments are monetary contracts between parties. They can be created, traded, modified and settled.
6. Legal Tender: Legal tender is a legally recognized payment instrument used to fulfil a financial commitment.
7. Ledger: A ledger is a book or collection of accounts in which account transactions are recorded.
8. Inflation-proof : An inflation-proof investment is one whose value increases based on the rate of inflation.
9. Monopoly: A monopoly is a dominant position of an industry or a sector by one company, to the point of excluding all other viable competitors. Monopolies are often discouraged in free-market nations.
10. Financial Bubble: A state of booming economic activity that often ends in a sudden collapse.
11. Volatile: Liable to change rapidly and unpredictably, especially for the worse.
12. Counterfeit: A fraudulent imitation of something else.
13. Double Spending Problem: The risk that a digital currency can be spent twice. It is a potential problem unique to digital currencies because digital information can be reproduced



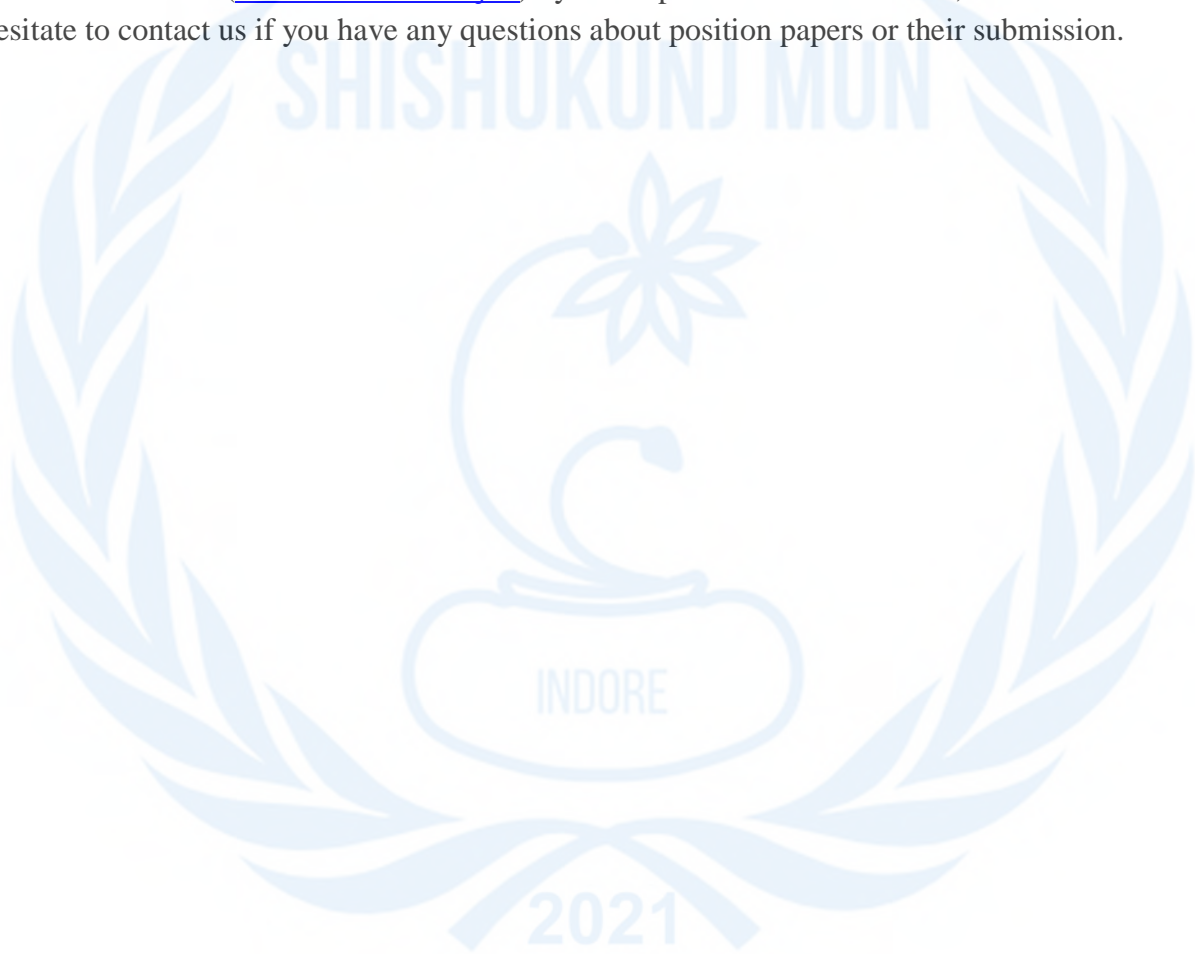
relatively easily by savvy individuals who understand the blockchain network and the computing power necessary to manipulate it.

14. Remittances: A remittance is a non-commercial transfer of money by a foreign worker, a member of a diaspora community, or a citizen with familial ties abroad, for household income in their home country or homeland.
15. Market Transparency: The ability of market participants to obtain information about the trading process, e.g. price, order size, trading volume, risk and trader identity.
16. Money Supply: Money supply refers to the total volume of money held by the public at a particular point in time in an economy.
17. Lender of Last Resort: An institution, usually a country's central bank, that offers loans to banks or other eligible institutions that are experiencing financial difficulty or are considered highly risky or near collapse.
18. Systemic Threat: A threat to an entire system rather than just to some part of the system.
19. Tax Evasion: Tax evasion is an illegal way to minimize tax liability through fraudulent techniques like deliberate under-statement of taxable income or inflating expenses.
20. Idiosyncrasies: Inherent factors that can negatively impact individual securities or a very specific group of assets.

## Position Papers

Position papers are formal, public statements of a delegate's position on the agenda in any specific committee. They may serve as the starting point for debates and discussion in the conference. Ideally, position papers lay out a country's/company's position on a issue before the committee, focusing mainly on what a delegate would like to address or accomplish at the conference, rather than describing a specific country's experience with a certain issue.

Each delegate should submit one complete position paper that covers their public statements. The word limit is 300 words (half page, single-spaced). Position papers are due to be mailed us on the committee's email ([uncstd@shishukunj.in](mailto:uncstd@shishukunj.in)) by 11:59 p.m. IST on October 6, 2021. Do not hesitate to contact us if you have any questions about position papers or their submission.



## **Questions a Resolution Must Answer (QARMAs)**

1. Should cryptocurrencies be treated as an asset, a currency or should they have their own special category?
2. What is the consensus on the existence and severity of risks connected to cryptocurrencies?
3. What should be the common standards of use of cryptocurrencies and what is the best way to address the risks?
4. What mitigation measures must be taken to curb the environmental hazards caused due to crypto mining?
5. How should be Crypto Assets be regulated for payments as well as adoption as legal tender under various nations and geographical regions



## Recommended Reading

FATF (2015): Guidance For a Risk-based Approach To Virtual Currencies. Available at:  
<http://www.fatf-gafi.org/media/fatf/documents/reports/Guidance-RBA-Virtual-Currencies.pdf>

- More detailed information about the FATF recommendations, including the policies of selected states.

Dabrowski M and Janikowski L (2018): Virtual currencies and central banks monetary policy: challenges ahead. EU, Directorate-General for Internal Policies. Available at:

[http://www.europarl.europa.eu/cmsdata/149900/CASE\\_FINAL%20publication.pdf](http://www.europarl.europa.eu/cmsdata/149900/CASE_FINAL%20publication.pdf)

- An extensive analysis requested by the European Parliament, detailing the opportunities and risks of cryptocurrencies.

Digiconomist (2018): Bitcoin Energy Consumption Index. Available at:

<https://digiconomist.net/bitcoin-energy-consumption>

- Bitcoin Energy Consumption Index, a good source for estimates on energy consumption and carbon footprint of mining, and possible alternatives



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