25th Deutsche Schule Athen Model United Nations | 21st-23rd October 2022

Forum: Economic and Social Council

Issue: The question of setting frameworks to regulate the usage of cryptocurrencies

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INTRODUCTION

Cryptocurrencies are digital coins created in blockchains that can be acquired in different

ways. Very briefly, the main way to acquire a cryptocurrency is to buy them through a certified

platform. There are several sites where cryptocurrencies are sold by brokers or exchanged

between users safely. On these sites, one could also have the chance to transform your money

into the desired cryptocurrency immediately.

By now 106 million people have invested in cryptocurrencies, which shows that

investment in cryptocurrencies continues to rise. The trend concerning this rise started back in

2011 when the price of bitcoin, a newly founded cryptocurrency, peaked in price and gave

incentive to other cryptographers to create their own cryptocurrencies. However, this idea had

begun back in the 90s but failed due to the lack of technological advancement that was needed

to take up such a large project.

Although cryptocurrencies are adored by many investment experts and sometimes can

guarantee easy profits, there are certain dangers that go hand in hand with their expansion and

development. First of all, they are highly dangerous when considering hacking and thefts. Owing

to the fact that they are stored on the net, thefts become easier as sometimes the sites may not

be as strong as they should be. Then, another important danger is the ecological damage that is

created by the use of cryptocurrencies. To put this in simple words, to store the

cryptocurrencies a series of all-day working monitors are needed in order to prevent the

breaking of the chain and the loss of the purchase. Therefore, the energy needed is enormous

and extremely harmful to the environment.

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Thus, cryptocurrencies must become regulated internationally in order to prevent situations harmful to the world and third parties. In this study guide, you will find information about the history of cryptocurrencies and the effects they bear in the world, along with possible solutions concerning their regulation, that at the moment does not exist in most countries.

DEFINITION OF KEY-TERMS

Cryptocurrency

"Cryptocurrency is a digital payment system that doesn't rely on banks to verify transaction. Units of cryptocurrency are created through a process called mining, which involves using computer power to solve complicated mathematical problems that generate coins. Users can also buy the currencies from brokers, then store and spend them using cryptographic wallets." 1

Blockchain

"Blockchain is a shared, immutable ledger that facilitates the process of recording transactions and tracking assets in a business network. An *asset* can be tangible (a house, car, cash, land) or intangible (intellectual property, patents, copyrights, branding). Virtually anything of value can be tracked and traded on a blockchain network, reducing risk and cutting costs for all involved."²

Mining

"Mining is the process that Bitcoin and several other cryptocurrencies use to generate new coins and verify new transactions. It involves vast, decentralized networks of computers around the world that verify and secure blockchains – the virtual ledgers that document cryptocurrency

¹ Kaspersky. "What Is Cryptocurrency? Cryptocurrency Security: 4 Tips to Safely Invest in Cryptocurrency." *Www.kaspersky.com*, 11 Jan. 2019, www.kaspersky.com/resource-center/definitions/what-is-cryptocurrency. Accessed 12 July 2022.

² IBM. "What Is Blockchain Technology? - IBM Blockchain." *Www.ibm.com*, 2022, www.ibm.com/topics/what-is-blockchain. Accessed 12 July 2022.

transactions. In return for contributing their processing power, computers on the network are rewarded with new coins."³

Proof of work

"A system that requires a not-insignificant but feasible amount of effort in order to deter frivolous or malicious uses of computing power, such as sending spam emails or launching denial of service attacks."

Initial coin offerings (ICOs)

"ICOs are a way for companies to raise capital. In an ICO, a company offers digital tokens to potential investors to fund a certain project or platform, and distributes the tokens via a blockchain network. Tokens purchased by an investor in an ICO typically do not provide "shares" in the company but might grant access to a service or a share in the project's earnings. The resources below provide detailed information about the ICO process and important regulatory guidance and warnings regarding these investments." 5

Broker

"A broker is an individual or firm that acts as an intermediary between an investor and a securities exchange. Because securities exchanges only accept orders from individuals or firms who are members of that exchange, individual traders and investors need the services of exchange members."

Cypherpunk

"A cypherpunk is an activist advocating widespread use of strong cryptography as a route to social and political change. Originally communicating through the cypherpunks electronic

³ "Crypto Basics - What Is Mining?" *Www.coinbase.com*, www.coinbase.com/learn/crypto-basics/what-is-mining.

⁴ Frankenfield, Jake. "Proof of Work." *Investopedia*, 29 Mar. 2021, www.investopedia.com/terms/p/proof-work.asp.

⁵ FINRA. "Initial Coin Offerings | FINRA.org." *Www.finra.org*, www.finra.org/investors/learn-to-invest/types-investments/initial-coin-offerings-and-cryptocurrencies/initial-coin-offerings. Accessed 27 July 2022.

⁶ Smith, Tim. "Broker." Investopedia, 6 Oct. 2020, www.investopedia.com/terms/b/broker.asp. Accessed 12 July 2022.

mailing list, informal groups aimed to achieve privacy and security through proactive use of cryptography. Cypherpunks have been engaged in an active movement since the late 1980s."⁷

Decentralized currency

"Decentralized currency, peer-to-peer money, and digital currency all refer to bank-free methods of transferring wealth or ownership of any other commodity without needing a third party. Most centralized, and some decentralized, markets use fiat currency—or physical money issued by a central bank, like u.s. dollars. Decentralized currency is used primarily in the virtual markets. Two examples of decentralized currency are bitcoin—the "coinage" used on the bitcoin platform—and ether—used on ethereum."

Encryption

"Encryption is a form of data security in which information is converted to ciphertext. Only authorized people who have the key can decipher the code and access the original plaintext information."

BACKGROUND INFORMATION

Procedure of acquiring a cryptocurrency

The first step to acquiring a cryptocurrency is to find a valid broker or crypto exchange site. On this site, one will be able to create an account that will enable one to find cryptocurrencies easily at low prices and be able to buy them legally and more safely, as it will demand verification for the transaction. Then, the safest way to pay for the transaction is to pay through a wire transfer through a bank. However, transactions through debit or credit cards will be more expensive because of extra fees and it might be risky as well due to increased theft.

⁷ "What Does Cypherpunk Mean?" Www.definitions.net, www.definitions.net/definition/cypherpunk. Accessed 27 July 2022.

⁸ Tardi, Carla. "Decentralized Market Definition." *Investopedia*, 2019, www.investopedia.com/terms/d/decentralizedmarket.asp.

^{9 &}quot;What Is Encryption? Definition, Types & Benefits." Fortinet, www.fortinet.com/resources/cyberglossary/encryption.

The second step after purchasing the cryptocurrency is finding a place to store it safely. Due to the intangibility of cryptocurrencies, it is easy for them to be stolen. The safest way to store them is to leave them at the exchange site creating a crypto wallet. This will ensure that they will be secure and protected from thefts. Another way to store them is through a hot or a cold wallet. The hot wallet is the most theft prone method since the cryptocurrencies are stored in internet-connected devices, while the cold wallet is stored in outside devices such as USB-sticks that do not require an internet connection.

History of cryptocurrencies

Innovation always leads to solutions for human problems whether those are useful or not. The first idea for cryptocurrencies came from David Chaum in the early 80s and while developing it, he named it Digicash. However, the difference with the modern cryptocurrencies is that they have an immediate connection to banks whereas the modern ones usually work separately.

Commonly seen as a predecessor to Bitcoin, Bit Gold was designed by Nick Szabo in the late 90s. Participants had to use the computer's ability to solve crypto puzzles, and those who solved the puzzles were rewarded. Combined with Chaum's work, this is very close to the idea and design of Bitcoin, the most popular cryptocurrency in the world. Szabo was unable to solve the double payment problem (where digital data can be copied and pasted) without the use of a central authority, such as a bank.

It has been almost 14 years since an anonymous person or group using the alias of Satoshi Nakamoto, began the history of Bitcoin and its subsequent cryptocurrencies by issuing a scientific paper entitled "Bitcoin-Peer-to-Peer Electronic Cash System". On October 31, 2008, the paper explained how the Bitcoin blockchain network works and gave following information to potential users. In addition, due to its anonymity it was seem as highly fascinating in the internet world since it was theoretically a very promising innovation. The person or group behind the Bitcoin project officially started working on it when Bitcoin.org was purchased, anonymously once again, on August 18, 2008. The first block of the Bitcoin network was mined by Satoshi Nakamoto on January 3, 2009. The first blocked, also called the Genesis block,

contained a headline of the New York Times as a reaction against the ongoing bank crisis in the USA at the time. Furthermore, the price of Bitcoin stabilized at first after a year in November of 2010 and it was around 29 cents.

Even if it wasn't very valuable yet, Bitcoin showed that it had potential to reach a very high value in the following years of the 2010s. In February 2011, it rose to \$ 1.06 before it fell back to approximately about 87 cents¹⁰. In the spring of 2011, prices soared, partly due to Forbes' talk about the new "cryptocurrency" and the attention it got from being published in such a prestigious magazine. As a result, in early June of 2011 the price of Bitcoin had skyrocketed and reached \$29.60¹¹.

In October of the same year, Litecoin, one of the many updated versions of Bitcoin was created by the same group/person. Litecoin soon became the second largest cryptocurrency by market capitalization, and the first archive from CoinMarketCap (as of May 2013) is far away from PPCoin, Namecoin and 10 others. Such cryptocurrencies were soon called "altcoins", some were based on the logistics of Bitcoin and others were based on new codes that had started developing owing to the increase in interest for Bitcoin.

In 2012, the price of Bitcoin rose steadily, and the Bitcoin Foundation was established in September of that year to promote the development and adoption of Bitcoin. Ripple, at that time known as OpenCoin, was also launched that year, and the project attracted venture capital the following year. In 2013, Bitcoin prices skyrocketed again and plummeted amid federal, criminal, regulatory, and software-related issues. By November 30, it had risen to \$ 1,163. Nevertheless, this was the beginning of another long-term crash that ended with Bitcoin falling to \$ 252 by January 2015 due to a high percentage of online scams taking place on that same year¹¹.

In 2016, a new major cryptocurrency project concerning blockchains appeared in the market. The project was called Ethereum; it received a lot of attention in the field of

www.investopedia.com/articles/forex/121815/bitcoins-price-history.asp.

¹⁰Edwards, John. "Bitcoin's Price History." Investopedia, 2019,

¹¹ Webster, Ian. "Bitcoin Price Chart and Tables | Finance Reference." *In2013dollars.com*, 2011, www. - in2013dollars.com/bitcoin price.

cryptocurrencies as it quickly became the second cryptocurrency by market capitalization since its inception in July 2015. It brought smart contracts to cryptocurrencies, enabled access to a wide range of potential use cases and generated over 200,000 different projects. Unlike Bitcoin, Ethereum allowed users to launch and run additional platforms in their own chain, each with their own cryptocurrency and use case. This model was vastly copied by other new blockchains; for example Cardano, Tezos and Neo (which are the three most popular ones).

During the past years, the market has fallen again. This is especially owed to high inflation, rising interest rates, and macroeconomic concerns arising from war insecurity and political instability of important countries. The global stock market has also experienced a downfall during late 2021 and 2022, and the parallel decline in cryptocurrencies shows that this sector is increasingly intertwined with traditional financial markets. While the market aims to become more stable by augmenting information and expertise in the sector and while the launch of new areas such as Stablecoin and Decentralized Finance (DeFi) are getting recognition, it seems comprehensible for users to be optimistic about cryptocurrencies and their potential in terms of investment and technology. However, there are still some issues with cryptocurrencies.

Major issues of cryptocurrencies

Contractual Issues

A very innovative and new characteristic of blockchain technology and cryptocurrencies are the self-executing "smart contract". A smart contract is a set of promises, usually specified in digital form, "that serves as the basis for the parties to a transaction to fulfill a particular promise" 12. Smart contracts automatically pay the other party when they meet their contractual obligations. Due to the uniqueness and inherent complexity of smart contracts, it is difficult to determine if they fit into the legal framework of traditional contract law of each society or a different branch that has not yet been named.

Jurisdictional Issues

¹² Freeman, Jason B. "Common Cryptocurrency Legal Issues." *Freeman Law*, 15 Nov. 2020, freemanlaw.com/legal-issues-surrounding-cryptocurrency/. Accessed 12 July 2022.

The concept under blockchain technology that underlies cryptocurrencies is that there is no way to pinpoint the actual location of the ledger. Therefore, transactions performed on the blockchain offer more privacy than transactions performed on traditional platforms, as mentioned before. However, this advantage presents complex judicial challenges while in a court trial. Firstly, due to the crypto trading nodes being in different jurisdictions, they can be subject to conflicting legal frameworks. Secondly, the "country of residence" of cryptocurrency software is difficult to identify due to the lack of physical location in the ledger and the user. Thirdly, due to the cross-border and even cross-continent nature of the specific blockchains, it is highly difficult to determine applicable laws and legislations while making sure the appropriate jurisdiction for blockchain disputes is used. Enforcing legislation on blockchain users, transactions, or projects is a daunting task for regulators in any country due to the cross-border reach of technology and it can often lead to inaccuracies.

In addition to this, there is the problem of the Black Market that might arise due to the development of cryptocurrencies. One very important example for this is the Silk Road incident that started in 2011 and was stopped by the CIA in 2013. The Silk Road was a black market for cryptocurrencies that worked for money laundering, drug transactions, hitmen and other very illegal activities.

Theft and Fraud issues

Data theft and financial fraud are other pressing legal concerns related to cryptocurrencies. The blockchain's promise of anonymity, and what appears to be a release from regulation, can tempt many users involved in illegal activities to use cryptocurrencies for financial transactions. In 2017, researchers at Cornell University identified a significant security flaw in the Ethereum blockchain that puts \$ 250 million at risk of theft¹³. Similarly, the cryptocurrency maker's ledger recently compromised one million email addresses in a data breach. Access to personal information such as the names, addresses and phone numbers of Ledger's 9,500 customers was also stolen. It

¹³ Chasalow, Kyla. "Researchers at Cornell Release Paper on Cryptocurrencies." *The Cornell Daily Sun*, 23 Jan. 2018, cornellsun.com/2018/01/23/researchers-at-cornell-release-paper-on-cryptocurrencies/. Accessed 27 July 2022.

remains unclear whether existing data laws can combat data theft and financial fraud through cryptocurrencies. Furthermore, Cryptocurrencies are not supported by centralized issuers, such as banks and intrinsic commodities such as gold and silver. Instead, their value depends entirely on the value that other owners and investors attribute to them. Without the support of central regulators, investors may have few legal remedies in the event of fraud or theft from crypto trading or ownership.

Privacy Issues

Privacy concerns are closely linked to data theft in the field of cryptocurrencies. As we have seen, one of the main reasons for adopting cryptocurrencies like Bitcoin was to ensure the anonymity of transactions between users. Nonetheless, Chainalysis has shown that this anonymity is under threat as blockchain analysis tools continue to improve. The blockchain analytics company has misnamed "Privacy Coin", claiming it can track most of Zcash and Dash transactions.

MAJOR COUNTRIES AND ORGANIZATIONS INVOLVED

United States of America

The USA is the main country that this issue circulates around. Most cryptocurrencies were developed there and are most popular there as well. The government has authorized payments for some goods to be able to be done through cryptocurrencies and there are legal frameworks that describe and regulate the usage of cryptocurrencies in everyday society. The first one was published on July 7th, 2022, by the US Treasury and it works as to develop a specific and more secure route for the purchase of cryptocurrencies and to ensure that payments with credit and debit cards become safer. However, users in the USA still suffers the aforementioned issues concerning frauds and scams in the crypto world.

China

China used to be one of the countries with the highest percentages of crypto users. However, in late September 2021, the People's Bank of China (PBOC) prohibited all cryptocurrency transactions and penalized them in their contract law. The PBOC strongly attributes the rise in financial crime to the common use of cryptocurrencies and believes that crypto poses an increasing problem to China's financial system due to its highly unpredictable nature. Nevertheless, another possible reason for the banning of cryptocurrencies in China could possibly be the strengthening of the distance between social classes.

India

In late 2021, the Indian cryptocurrency market was worth approximately \$ 5.39 billion, with an estimated number of crypto users between 15 and 20 million, up to 100 million¹⁴. Nonetheless, the Government of India is thinking of terminating the existence of a country-wide cryptocurrency use, as it could potentially pose a threat to India's national currency, the rupee (and the potential Indian CBDC). As a result, there are concerns that a total ban on cryptocurrencies will be revived at the national level, but authorities have not yet confirmed this.

Venezuela

Venezuela has its own cryptocurrency that was first issued in 2018 and it is named Petro. This cryptocurrency was created in order to help the national currency that is now going through major inflation right now and in the past years. The Petro is based upon the country's oil and mineral resources. In January 2020, the current president, Nicolás Maduro has proclaimed it obligatory to pay with the Petro for governmental services. However, the implementation of the Petro has not been very successful and it is mostly used by government officials.

¹⁴ Rees, Katie. "Which Countries Use Crypto the Most? The Top 10 Crypto Countries." *MUO*, 4 Dec. 2021, www.makeuseof.com/which-countries-use-crypto-the-most/. Accessed 12 July 2022.

European Union

In 2020, European Union enforcement agencies proposed a set of new rules to fill the legal gap surrounding cryptocurrency service providers. In the crypto asset regulation (MiCA) market, which is part of the broader package of FinTech legislation, the European Commission has stated that cryptocurrencies meet the same transparency, disclosure, licensing, compliance, approval and oversight. The framework is aimed at tackling fraud and at protecting transactions between investors and brokers.

Gulf Cooperation Council

The Gulf Cooperation Council (GCC) is an intergovernmental organization between Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates. The GCC governments, especially the ones of the United Arab Emirates (UAE), Bahrain, and Saudi Arabia, are serious about implementing large-scale digital transformations, including extensions to crypto assets. With a series of progressive regulatory developments over the past few years, these advanced jurisdictions are positioned as new hubs for cryptocurrency and blockchain technology. The region is currently experiencing enthusiastic investment in digital assets, and crypto asset exchanges are growing rapidly everywhere.

TIMELINE OF EVENTS

DATE	DESCRIPTION OF EVENT
10 February 1999	Digicash, the first cryptocurrency, is fully put to work and functioning in the USA inside the Berkley community.
29 December 2005	Bit Gold, the predecessor of Bitcoin is created and out in the market.

3 January 2009	The first Bitcoin blockchain is launched with the Times headline on it making a statement about the American economy at the time.
22 May 2010	The first in real life transaction with Bitcoin took place. The transaction was amongst a programmer and a cashier who accepted 10000 Bitcoins for two large pizzas.
December 2013	Bitcoin's total value in the market exceeds 1 billion US Dollars.
6 th November 2014	The Silk Road the largest black market where cryptocurrencies were used is shut down by the CIA in accordance with Interpol.
30 July 2015	Ethereum is launched and gains popularity immediately giving a second choice to users to make their transactions even easier.
1 st February 2018	The first UN organized seminar on cryptocurrencies takes place to inform the people about cryptocurrencies and their use.
December 2021	Bitcoin's total value in the market exceeds 1 trillion US Dollars.

RELEVANT UN RESOLUTIONS, TREATIES AND EVENTS

Seminar: Understanding Bitcoin, Blockchains and the Crypto Economy¹⁵

This was a free seminar that took place on the 1st February 2018 to address the rise in cryptocurrencies. It was hosted by the Development Strategy and Policy Analysis Unit of the United Nations. It provided valid and useful information on cryptocurrencies, how to use them and the framework under which they function in international law. It was open to everyone who was interested and prior to the actual seminar there were panelists that spoke on questions of the public.

Blockchain applications in the United Nations system: towards a state of readiness¹⁶

This was a report of the joint inspection unit published by the United Nations in 2020. It addressed the use of blockchains in the United Nations system. It also provided the challenges of implementation and enforcement of blockchains, in the un. The report suggests using an endogenous growth model to develop cryptocurrencies for each country specifically. It also gives further input on the future of blockchain technology as it is thought by the secretary general, two united nations organizations and five experts on the topic.

Harnessing blockchain for sustainable development: prospects and challenges ¹⁷

This was a report of the Secretary General published in 2021. It describes how countries and the international community can use blockchain technology to contribute to development priorities and sustainable development goals. It shows the great potential of blockchain technology to contribute to sustainable development. However, for now, most innovations have focused on the speculative benefits of financial applications and crypto assets.

¹⁵ United Nations. "What Is the Future of #Bitcoin?" Development Policy & Analysis Division | Dept of Economic & Social Affairs | United Nations, 31 Jan. 2019,

www.un.org/development/desa/dpad/2018/seminar-understanding-bitcoin-blockchains-and-the-crypto-economy/.

¹⁶ United Nations. "Blockchain Applications in the United Nations System: Towards a State of Readiness (JIU/REP/2020/7) | Joint Inspection Unit of the United Nations System." *Www.unjiu.org*, July 2020,

www.unjiu.org/news/blockchain-applications-united-nations-system-towards-state-readiness-jiurep20207. Accessed 28 July 2022

¹⁷ Guetteres, Antonio. "Commission on Science and Technology for Development Harnessing Blockchain for Sustainable Development: Prospects and Challenges Report of the Secretary-General Economic and Social Council." 21 May 2021.

PREVIOUS ATTEMPTS TO SOLVE THE ISSUE

Markets In Crypto-Assets (Mica)

This is a provisional agreement suggested by the European Union on the 30th of june 2022 in all its member countries. The framework provides information on setting up a legal background so as to have a more familiar and common approach in all of the member countries when dealing with cases involving cryptocurrencies

Framework for international engagement on digital assets

On July 7th, 2022, the secretary of the Treasury in the US presented to the president, Joe Biden a potential framework concerning cryptocurrencies and foreign involvement. The framework underlined potential risks of using cryptocurrencies internationally and it further explained and gave the parameters under which their technology and uses develop day by day.

POSSIBLE SOLUTIONS

Creating an International Framework

As it was evident before, the jurisdiction process when considering cryptocurrencies is very difficult due to the complexity and the anonymity that exists. Thus, by creating an international framework, that will set out how crimes related to cryptocurrencies will be handled, it will facilitate the judiciary process and make the scene clearer for users as well. The framework needs to be decided upon in a General assembly meeting so that all countries can participate. It was to include three main components: the logistics of use internationally, the penalties for specific common violations such as fraud and theft and the creation of a panel that will supervise global transactions and record them in order to promote safety and security.

Regulating Laws regarding Cryptocurrency

Developing proper regulatory tools to address the risks brought on by rising cryptocurrency use is a challenge for authorities around the world. Money laundering and

concerns related to consumer and financial crime are not adequately addressed by current regulatory measures. Because money launderers are using cryptocurrencies like Bitcoin, Ether, and Ripple to "pay out" their revenues and bounce transactions across the globe quickly and discreetly, regulatory scrutiny of cryptocurrencies has increased. These new forms of money undoubtedly present opportunities and difficulties for the financial sector, policymakers, and consumers. By removing the inefficient operational and security processes involved with the transportation of traditional money, digital currencies can increase the effectiveness, convenience, and security of international payments, hence improving overall economic efficiency.

Educational Seminars

There are many people in the world that do not even know that cryptocurrencies exist. By organizing informative seminars on this topic, the public will be better educated and will know how to avoid risks and how to invest safely. As had happened in 2018, the UN should organize more seminars like the previous one since society is becoming cashless every single day. The move towards a cashless society means that people need to be more informed about the different options they have to store their monetary assets, cryptocurrencies being some of those. More people would be involved in those seminars in our day. However, the difficulty of this solution lies in the fact that there is a pandemic going on; therefore, it could happen live but there would be needed an online version as well for people who cannot attend the seminars for a reason or another.

Limitation of circulation

Most problems in the crypto world arise due to an overflow of cryptocurrency coins. The UN could use its jurisdiction to actually limit the amount of flow in order to prevent the spread of crime and ensure the safety of the users. This would work like a monetary policy enforced by a government on a more global scale. The UN could develop a team of experts on the cryptocurrency topic and with their help they could first carry out research and find statistics on how the market is functioning and then implement some changes so as to prohibit overflow.

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