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2023北京国际模拟联合国大会
Beijing International Model United Nations 2023

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Background Guide

United Nations
Conference on Trade and Development

Topic: Regulation of Cryptocurrency in Developing Countries

青年携手 命运共同
JOINED HANDS , SHARED FUTURE

Contents

Welcome Letter

Dear Delegates,

Welcome to the United Nations Conference on Trade and Development (UNCTAD) of Beijing International Model United Nations 2023 (BIMUN2023)! The Directors of UNCTAD would like to extend our sincerest welcome to you all!

Since the birth of the first decentralized cryptocurrency in 2009, a complex and rapidly evolving system has emerged. During the pandemic, the use of cryptocurrencies has increased at an unprecedented rate globally, reinforcing a trend that has already begun. In this context, developing countries may face significant challenges in promoting structural transformation and sustainable development.

The hype surrounding crypto assets has led to regulatory distraction. While the creators promised it would solve the "trust problem", it has not reduced our reliance on centralized financial intermediaries or eroded the power of large institutions. What's more, the trend towards private digital currencies makes regulatory responses challenging. Policymakers around the globe are continuously evaluating how to address the novel issues posed by cryptocurrencies. Financial stability, equity, security, and sustainability are all critical issues concerning this topic. The risks and opportunities presented must be carefully assessed to determine the need for regulations and specific efforts at innovation.

With numerous aspects to the debate, this Background Guide provides you with a general introduction and the directors' understanding of this topic for your reference. We divided this grand topic into three major parts: first, the technology and the financial instability or risks that come with it; second, the current legal system and loopholes; and third, the specific case in developing countries, as well as issues concerning global cooperation. We hope to hear your unique views from your country's standpoint.

The long-term socio-economic impact of cryptocurrencies is still unclear. This committee provides you with the opportunity to debate the pertinent global issues of our time. It is all about collaboration to bring the best out of this relatively new form of technology and financial transaction. We look forward to seeing your unique understanding as well as innovative approaches through your paperwork and debates.

Best Regards,

United Nations Conference on Trade and Development

BIMUN 2023

Introduction to the Committee

The United Nations Conference on Trade and Development (UNCTAD) holds a unique position taking to heart the needs of developing countries as it helps them participate more equitably in the global economy, using trade, investment, finance, and technology as means for inclusive and sustainable development.[1] [2] It aims to maximize the trade, investment, and development opportunities of developing countries, to eventually achieve the goal "prosperity for all".

UNCTAD discusses technology-related matters as part of its work on trade and development, investment, and finance. Its work is based on its three pillars: research and analysis, consensus-building, and technical cooperation. This work is carried out through intergovernmental deliberations, research, and analysis, as well as seminars, workshops, and meetings.[3] This committee is essentially a forum where delegates can debate and discuss how to establish a better balance in the global economy. It also cooperates regularly with other organizations and donor countries in delivering technical assistance.

In 2022, UNCTAD released three policy briefs that delve into the risks and costs associated with cryptocurrencies, including financial stability, domestic resource mobilization, and security of the monetary system, calling on countries to focus on the control of cryptocurrencies. At the same time, some scholars believe that cryptocurrencies can be of great help to developing countries, as they facilitate international trade because there are no interest rates or transaction fees involved. Thus, cryptocurrency may lower barriers to development.

Cryptocurrencies and blockchain technology may not sound like the focus of discussion in this committee, but it shows great potential for trade facilitation in areas such as supply chain management. Blockchain technology could improve nearly all aspects of international trade. UNCTAD, in collaboration with other agencies, could conduct research and analysis focused on innovation systems, policy, and regulatory frameworks in developing countries.

1 "UNCTAD." *UN GENEVA,* Jan. 1, 2023 Accessed, https://www.ungeneva.org/en/organizations/unctad.

2 "ABOUT UNCTAD." *UNCTAD*, Jan. 1, 2023 Accessed, https://unctad.org/about.

3 UNCTAD, "Harnessing Blockchain for Sustainable Development", *UNCTAD*, Jun. 2021.

General Introduction

General Idea of the Topic

Cryptocurrencies have captured the minds of laypeople and investors alike, as they have been adopted in a wide range of industries. While some hail this technology as paving the way for the future, the same characteristics being praised are also topics of concern and contention. As cryptocurrencies transform how we trade, transact, and interact, it has become more impactful than ever, especially in developing countries.[4]

In some emerging markets and developing countries, associated financial stability risks are rising. The total valuation of crypto assets reached nearly $3 trillion in November 2021, then fell to less than $1 trillion in July 2022, demonstrating high volatility.[5] Decentralization is one of its major features. Transactions done via cryptocurrencies are validated by a peer-to-peer network of computers (nodes), but there is no equivalent of a central bank or government that exists in ordinary fiat currency to control its supply or value.

Blockchain is a transformative technology that has been mainly associated with cryptocurrencies so far. Blockchain may be able to offer a high level of confidence to both traders and regulators in many applications to contribute to sustainable development.[6] However, this innovation has focused on financial applications dissociated from the real economy at this moment.

It should also be noted that cryptocurrency can be used to facilitate illegal activity. The infamous dark web market, the “Silk Road”, utilized Bitcoin as a way of payment until it was shut down in late 2013.[7] It was an online black market where users could buy and sell illicit goods anonymously that peddled illegal drugs, fake documents, and hacking services.[8] In an increasingly digitalized economy, the security and accountability of data transactions are essential for generating trust and enabling innovations. Issuing and trading activities are tolerated in many countries around the world, but the large number of cases alleging fraud and money laundering is a cause for concern.

There also exist discrepancies between different countries’ regulations. Many do not agree on whether to allow the use of cryptocurrencies by the public or not. In addition, the cross-border nature of crypto assets can make regulation, supervision, and enforcement particularly challenging.

The crypto ecosystem is a highly volatile and fragmented system. Innovations in blockchain have drawn on programmers from developed and developing countries and a user

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4 World Economic Forum, “Cryptocurrencies: A Guide to Getting Started,” *World Economic Forum*, Jul. 2021, Feb.4, 2023 Accessed, https://www3.weforum.org/docs/WEF_Getting_Started_Cryptocurrency_2021.pdf.

5 International Monetary Fund, “Regulating the Crypto Ecosystem: The Case of Unbanked Crypto Assets,” *IMF*, Sept. 2022.

6 “Block-Chain for Trade Facilitation.” *UNCTAD*, April 20, 2018, Jan. 9, 2023 Accessed, https://unctad.org/meeting/block-chain-trade-facilitation#tab-7.

7 Jake Frankenfield, “Silk Road Definition,” *Investopedia*, July 26, 2021, Jan. 9, 2023, Accessed, https://www.investopedia.com/terms/s/silk-road.asp.

8 “A Guide to the Silk Road Dark Web.” Avast, Nov. 29, 2022, Feb. 5, 2023, Accessed. https://www.avast.com/c-silk-road-dark-web-market.

base of retail traders and financial institutions from all over the world. Policymakers will have to contend with a difficult macro and geopolitical context. It requires prudent regulation within and across national borders to strike a balance between minimizing risk and maximizing innovation.

Key Terms

Currently, there is a lack of common terminology as different regulators (intergovernmental organizations, legislature, governments, and independent institutions) give unique definitions. Understanding the nuances and identifying the terminology most suitable for regulatory objectives remains one challenge for regulators.[9] The key terms explained below are drafted referring to common interpretations.

a. Token

A token is a unit of value related to a specific blockchain (see below for definition) network, representing its currency, and giving value to transactions within the network. For example, the Bitcoin network's token is called BTC.[10] In this case, bitcoin is a cryptocurrency, which has virtual tokens that can be used to trade or make purchases. Tokens can represent an investor's stake in the company or serve an economic purpose, just like legal tender.[11]

b. Cryptocurrency

A cryptocurrency is a digital currency that uses encryption techniques to regulate the creation of units of currency as well as verify the transfer of funds, intended to function as a medium of exchange or store of value. It is designed to operate independently of a central bank, with each token and transaction uniquely encrypted.[12]

A cryptocurrency is a form of money that serves as a medium of exchange or store of value. While crypto assets include not only cryptocurrencies, but also non-currency assets such as non-fungible tokens, security tokens, and utility tokens, which are all stored on a distributed ledger.

To be more specific, please refer to the chart below by the International Monetary Fund.

9 Blandin, Apolline, Ann Sofie Cloots, Hatim Hussain, Michel Rauchs, Rasheed Saleuddin, Jason G Allen, Bryan Zheng Zhang, and Katherine Cloud. "Global Cryptoasset Regulatory Landscape Study." *SSRN Electronic* Journal, 2019. https://doi.org/10.2139/ssrn.3379219.

10 UNCTAD, "Harnessing Blockchain for Sustainable Development", *UNCTAD*, Jun. 2021.

11 Frankenfield, Jake. "What Are Crypto Tokens, and How Do They Work?" Investopedia. Investopedia, May 20, 2022, Feb. 6, 2023, Accessed. https://www.investopedia.com/terms/c/crypto-token.asp

12 UNCTAD, "Harnessing Blockchain for Sustainable Development", *UNCTAD*, Jun. 2021.

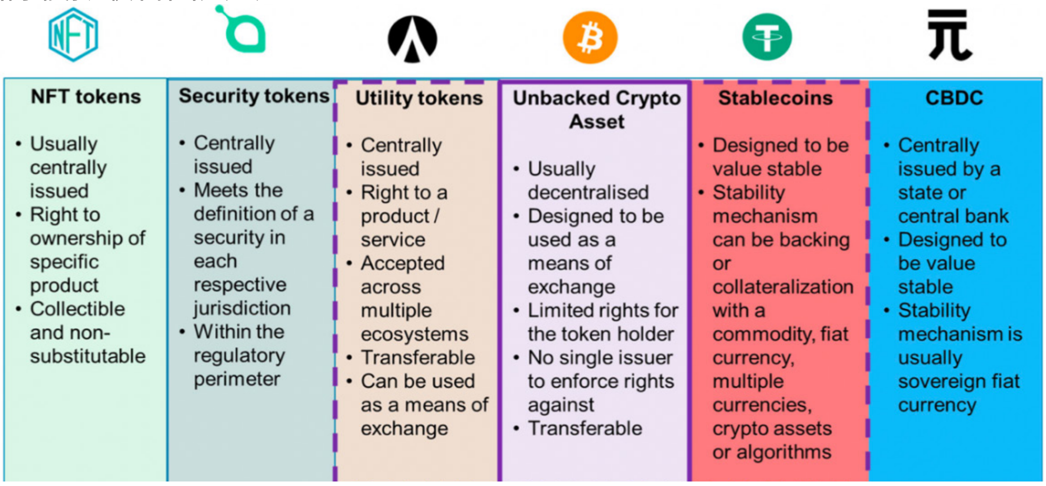

Figure 1 Types of Crypto Assets, including Non-Fungible Tokens and Central Bank Digital Currencies[13]

c. Blockchain

Blockchain is a system in which a record of transactions made in a cryptocurrency is maintained across several computers linked in a peer-to-peer network. It is also a cryptographic protocol that allows separate parties to increase the trustworthiness of a transaction. It comprises blocks (packaged data), and each block is "chained" to the next block using a cryptographic signature.[14]

d. Mining

Mining is a peer-to-peer computer process of allocating computer power to carry out transactions on the network and being rewarded with tokens. Each transaction is encrypted by complex computational math problems to be processed.[15]

e. Decentralized Finance (DeFi)

Decentralized Finance or 'DeFi' refers to the economic paradigm shift enabled by decentralized technologies, particularly blockchain networks.[16] With this technology, where there is an Internet connection, individuals can make transactions using software that records and verifies financial behavior in a distributed financial database. Most DeFi protocols are open-source and allow the community to review and further develop the code underlying the protocols. It is an effort to replicate certain functions of the traditional financial system by eliminating intermediaries. DeFi is the latest trend, but the financial services that do not comply with financial regulations expose retail and institutional participants to risks.

13 International Monetary Fund, "Regulating the Crypto Ecosystem: The Case of Unbacked Crypto Assets,". *IMF Fintech Note*, Sept. 2022.

14 UNCTAD, "Harnessing Blockchain for Sustainable Development", *UNCTAD*, Jun. 2021.

15 Ibid.

16 Ibid.

Current Situation

History and Timeline

a. Before Bitcoin: The Initial Ideas

The idea of creating a decentralized digital currency has been around for decades. In 1982, David Chaum published a paper entitled “Computer Systems Built, Maintained, and Trusted by Mutually Suspicious Groups” that laid the groundwork for the future development of the blockchain field.[17] In 1998, Wei Dai and his B-money became the first to propose the idea of creating a currency by solving computational puzzles as well as decentralizing consensus.[18]

b. 2009: The First Bitcoin

The first Bitcoin was mined by its creator(s), the pseudonymous Satoshi Nakamoto, with the first Bitcoin transaction occurring shortly after. Bitcoin only piqued the interest of cryptography enthusiasts during this period, with no practical value. The launch of Bitcoin was driven by the idealistic desire to eliminate the inefficiencies of the intermediated banking system, which relies on central banks and commercial banks to mediate the relationship between the supply and demand for money.[19]

c. 2015: The Release of Ethereum

Ethereum is the second-largest cryptocurrency platform by market capitalization, behind Bitcoin. Ethereum had a more sophisticated mining algorithm requiring miners to do “proof-of-stake”, in addition to proof-of-work to verify transactions.[20] The transactional token that facilitate Ethereum is called “Ether.”, Ethereum is more of an ecosystem than a mere currency since it could process transactions much faster and facilitate smart contracts. Moreover, it enables developers to build a variety of technologies and apps around it and allows the processing of complex contracts and programs rather than peer-to-peer transactions.

d. 2016: The DAO Hack

An unknown person/group exploited the Decentralized Autonomous Organization (DAO), a complex set of smart contracts created on the Ethereum platform that would act as a kind of venture capital fund. A loophole in the coding allowed the attacker to ask the DAO to give the Ether back multiple times before the updating its balance, allowing him to drain funds. Sixty million dollars' worth of Ether was stolen. Because of the hack and subsequent theft, the Ethereum network moved to manually update its blockchain to return the money to its original owners.[21] The failure of the DAO not only meant financial losses for investors, but also was a harsh blow on the nascent Ethereum network.

17 “History of Cryptocurrency: The Idea, Journey, and Evolution.” *Worldcoin*, Nov.29, 2022, Jan. 8, 2023 Accessed, https://worldcoin.org/articles/history-of-cryptocurrency.

18 Buterin, Vitalik. “A next-generation smart contract and decentralized application platform.” *white paper* 3, no. 37 (2014): 2-1.

19 Russo, Elena. “Cryptocurrencies' Adoption in Developing Countries,” *LIUISS*, 2019.

20 Ibid.

21 “The DAO: What Was the DAO Hack?” *Gemini.* Accessed Jan. 15, 2023. https://www.gemini.com/cryptopedia/the-dao-hack-makerdao#section-origins-of-the-dao.

Rise of Cryptocurrencies

Bitcoin's price skyrocketed during 2017-2018, as it soared to $20,000 but crashed back below $3,500 a year later and has since reverted to rallying across a wide trading range with few lasting returns.[22] In 2021, cryptocurrencies reached a turning point, evolving from what many consider a niche investment into a global, established asset class. 41% of cryptocurrency owners surveyed globally purchased cryptocurrency for the first time in 2021.[23]

By accelerating digitalization and deepening the reliance on digital technologies, COVID-19 has boosted the use of cryptocurrencies. During the COVID-19 pandemic, bitcoin surged by 300% in 2020.[24]

There are two main reasons for the increased usage. First, the use of cryptocurrencies is an attractive channel for remittances in terms of price and speed. During the pandemic, the high cost of traditional remittance services rises even higher during a blockade due to the associated disruptions.[25] With lockdowns and social distancing measures disrupting traditional goods and services, investors have increased demand for digital commodities to combat the uncertainty of the traditional formalized system, thus increasing the circulation of cryptocurrencies.

Second, the upward gains were partly influenced by financial market investors who saw the potential of using cryptocurrency to hedge against pandemic-related inflation, as it has long been argued that central bank printing of money will lead to inflation over time. As part of financial investments and speculation, cryptocurrencies are also held by individuals in developing countries as a way to protect savings, particularly when facing currency depreciation and rising inflation.[26]

Circumstances in developing countries

Some financial experts believe that low trust in government institutions and corruption undermine economic development. Economic factors are a major cause of poverty, including high inflation rates and limited access to financial services. [27] Therefore, it is assumed that cryptocurrencies can provide great benefits by increasing access to financial services and overcoming social trust issues in developing countries. It also provides better traceability of funds while promoting financial inclusion.

However, there are market limitations including the lack of scalability, privacy concerns, uncertain regulatory standards, and the incompatibility of the technology with existing applications. The potential of blockchain to solve development problems has been

22 Lyn Alden Schwartzer, "The Bullish Case for Bitcoin," *Nasdaq,* Jul. 7, 2020, Jan. 12, 2023 Accessed, https://www.nasdaq.com/articles/the-bullish-case-for-bitcoin-2020-07-17.

23 GEMINI, "Global State of Crypto Report", GEMINI, 2022.

24 Sarkodie, Samuel Asumadu, Maruf Yakubu Ahmed, and Phebe Asantewaa Owusu. "Covid-19 Pandemic Improves Market Signals of Cryptocurrencies–Evidence from Bitcoin, Bitcoin Cash, Ethereum, and Litecoin." *Finance Research Letters* 44 (2022): 102049. https://doi.org/10.1016/j.frl.2021.102049.

25 Ibid.

26 UNCTAD, "All that Glitters is not Gold", *Policy Brief No.100*, Jun. 2022.

27 Moritz Holtmeier and Philipp Sandner, "The Impact of Cryptocurrencies on Developing Countries," *FSBC Working Papers*. Dec. 2019.

exaggerated to some extent by its early adopters and the technical press. Therefore, it may be less applicable to developing and least developed countries. Governments and regulators in developing countries usually face additional challenges due to low capacity and resources to keep abreast of the developments in technology and the innovation ecosystem.

Some emerging markets and developing economies are adopting cryptocurrencies faster than developed economies due to poor local macroeconomic policies or inefficient payment systems. Weak central bank credibility and weak banking systems can trigger asset substitution as residents seek safer stores of value. In countries like Venezuela and Brazil, the cost of the traditional financial system makes people more willing to try and switch to different cryptocurrencies.[28]

Inefficiencies in cross-border remittances due to a lack of payment system interoperability are driving a shift to faster and cheaper crypto-asset payment services. Cryptocurrencies present alternatives for cross-border transactions and would be desirable wherever remittances are high.[29]

At present, cryptocurrencies' ways of supporting the growth process of developing countries are limited. There is a growing need for policy guidance, training, global regulation, and standard setting to guarantee a fair and responsible adoption of the technology in developing countries.

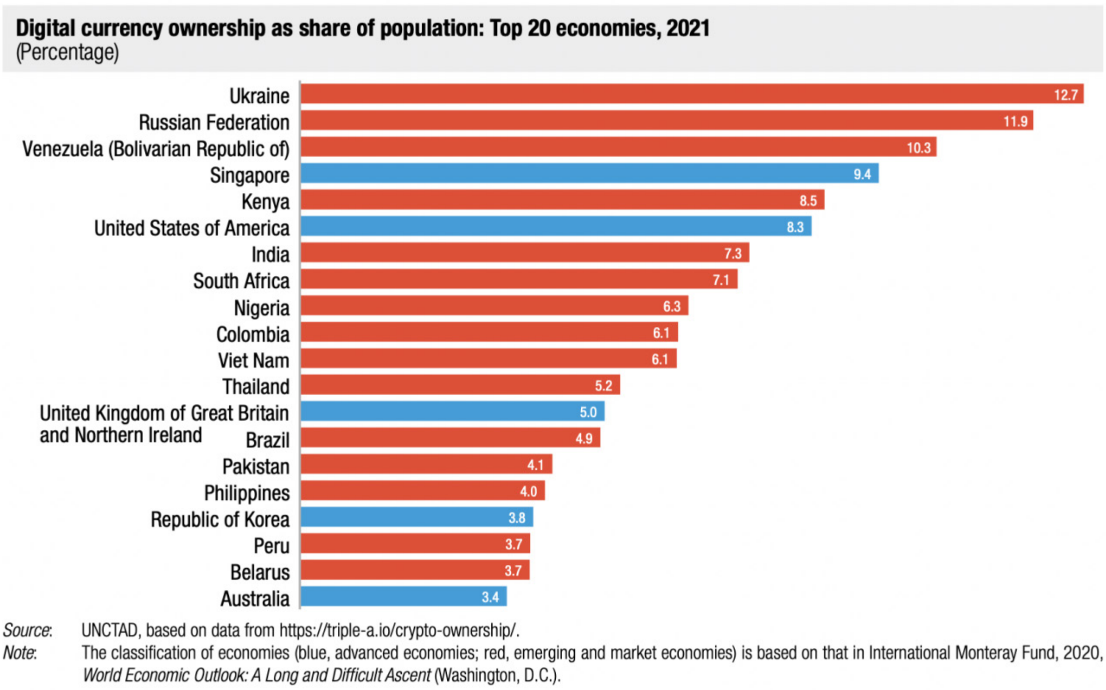

Figure 2 Digital currency ownership as a percentage of population by country in 2021[30]

Figure 2 shows that in the developing world, there are signs that crypto is quietly building deeper roots. Cryptocurrency use is fast becoming a fact of daily life especially in countries which have a history of financial instability or where the barriers to accessing traditional financial products such as bank accounts are high.

28 Ibid.

29 World Economic Forum, "The Macroeconomic Impact of Cryptocurrency and Stablecoins," *WEF*. Jul. 2022, Feb. 4, 2023, Accessed. https://www3.weforum.org/docs/WEF_The_Macroeconomic_Impact_of_Cryptocurrency_and_Stablecoins_2022.pdf.

30 UNCTAD, "All that Glitters is not Gold", *Policy Brief No. 100,* Jun. 2022.

Past Actions

a. International Efforts

The Group of Twenty (G20)

In March 2018, G20 central bankers and finance ministers met in Buenos Aires. One of the topics discussed was cryptocurrency, specifically ways to reduce its risks without potentially inhibiting its development and innovation. The statement reaffirms the above-mentioned concerns regarding cryptocurrencies and illicit financial acts, as well as adding tax and financial integrity issues to them.[31] G20 countries are working to build policy consensus on crypto assets, as India claims it will prioritize a global regulatory framework for unsecured crypto assets during its current G20 presidency. The discussions covered managing global debt vulnerabilities, sustainable development goals, and strengthening multilateral development banks. These are essential aspects to consider regarding the proper treatment of cryptocurrencies in developing countries.[32]

The Organization for Economic Cooperation and Development (OECD)

OECD, in collaboration with G20 countries, has developed the "Crypto-Asset Reporting Framework," a dedicated global tax transparency framework that annually exchanges tax information on crypto asset transactions in a standardized manner with the jurisdictions in which taxpayers are located. It consists of rules and commentary that discusses: the scope of Crypto-Assets to be covered, the entities subject to data collection and reporting requirements, the transactions subject to reporting, and the information to be reported in regard to such transactions.[33] Against the backdrop of a rapid adoption of the use of crypto assets for investments and financial uses, this report includes commentary to help administrations with implementation.

Financial Action Task Force (FATF)

The Financial Action Task Force (FATF) develops and promotes policies to protect the global financial system. As the global money laundering and terrorist financing watchdog, In July 2021, the FATF completed a review of the implementation of its new standards on virtual assets and virtual asset service providers.

The FATF approach emphasizes the expansion of the preventive capabilities of domestic states rather than control over the cross-border movement of illicit goods and capital. This is accomplished by promoting legislative harmonization between domestic legal systems to reduce the possibility of capital flight to unregulated havens and encouraging international legal cooperation and information sharing amongst states.[34]

31 G20, "Communiqué. G20 Finance Ministers & Central Banks Governors Meeting. Buenos Aires," G20, 23 Jul. 2018, Jan. 13 2023 Accessed, http://www.g20.utoronto.ca/2018/2018-07-22-finance-en.pdf.

32 "G20 Wants to Build Policy Consensus on Crypto Assets." *Reuters*, December 15, 2022, Jan. 13 2023 Accessed, https://www.reuters.com/technology/g20-wants-build-policy-consensus-crypto-assets-2022-12-14/.

33 OECD, "Crypto-Asset Reporting Framework and Amendments to the Common Reporting Standard," *OECD*, Paris, Oct.10, 2022, Jan. 11, 2023 Accessed, https://www.oecd.org/tax/exchange-of-tax-information/crypto-asset-reporting-framework-and-amendments-to- the-common-reporting-standard.htm.

34 Gustavo Rodrigues and Lahis Kurtz, "Cryptocurrencies and anti-money laundering regulation in the G20," Institute for Research on Internet and Society. Sept. 27, 2019, Jan. 14 2023 Accessed, https://irisbh.com.br/en/publicacoes/19906/.

Financial Stability Board (FSB)

The Financial Stability Board (FSB) promotes international financial stability by coordinating the work of financial authorities and standard-setting bodies to develop effective regulatory, supervisory, and other financial sector policies. It monitors the crypto asset market, issued a set of principles to guide the regulatory treatment of global stablecoins, and is now developing guidance for a broader range of crypto assets. In October 2021, the FSB published its Progress Report that discusses the key market and regulatory developments and describes the status of the review of the existing frameworks, standards, guidelines, and principles considering the FSB high-level recommendations.[35]

b. Regional/Domestic Efforts

Specialized Task Force

Back in 2018 Brazil had the mandate to study blockchain and its impact on the banking sector. The federation of banks FEBRABAN created a blockchain working group while other programs took place as well.[36] The focus of these task forces would be to develop a technical understanding of blockchain within the government and to monitor international developments in the technology. The results will prepare governments to understand blockchain regulatory practices and identify potentially harmful activities. Upper middle-income countries could establish a multi-stakeholder blockchain task force to develop expertise in blockchain technology and policy.

Regulatory Regimes

Some countries set up new regulatory approaches specific to crypto asset activities. In Bermuda, digital asset businesses must comply with new licensing requirements. The Bermuda Monetary Authority (BMA) regulates Bermuda's financial services sector and serves as the decision maker on which license to apply.[37] It also has the power to impose penalties or to restrict or revoke any license that has been granted.[38]

Ruling Out its Legitimacy

Many countries outlawed cryptocurrencies for they are not considered manageable. The Egyptian government banned the trading of cryptos in 2018 partly due to religious concerns under Islamic law.[39] The Bolivian government banned the use of cryptocurrencies such as bitcoin in 2014, and barred the banking sector from any transactions related to crypto assets in January 2022. Bolivia's central bank has said the measures were necessary to protect the public from "risks, frauds and swindles." [40]

35 Financial Stability Board, "Regulation, Supervision and Oversight of Crypto-Asset Activities and Markets." *FSB*. Oct. 2022.

36 Ernst-Jan Bakker, "Brazil's beginning blockchain business", *Netherlands Enterprise Agency,* Feb. 2018, Feb. 4, 2023, Accessed. https://www.rvo.nl/sites/default/files/2018/02/brazils-beginning-blockchain-business.pdf.

37 "Bermuda Monetary Authority." Government of Bermuda. February 4, 2023, Accessed. https://www.gov.bm/department/bermuda-monetary-authority.

38 "Bermuda blockchain and cryptocurrency regulation 2022," *Global Legal Insight,* Jan. 05, 2022. Jan. 11, 2023 Accessed, https://www.careyolsen.com/briefings/bermuda-blockchain-and-cryptocurrency-regulation-2022.

39 "Egypt and Cryptocurrency." *Freeman Law*, December 27, 2022. Jan. 19, 2023 Accessed. https://freemanlaw.com/cryptocurrency/egypt/.

40 Ben Margulies, "Bolivian Authorities Implement Crypto Ban," *Central Banking,* Jan. 14, 2022, Jan. 20 Accessed, https://www.centralbanking.com/regulation/banking/7919816/bolivia-authorities-implement-crypto-ban.

Integration into Legal and Financial Frameworks

Bitcoin would become legal tender in El Salvador as the Bitcoin Law was enforced in September 2021.[41] Businesses was required to accept bitcoin. The central bank released two documents detailing how banks should deal with bitcoin. Financial entities ought to apply to the central bank so as to offer digital wallets. Applications must include target market details, risk assessments, charges to customers, and complaint procedures. KYC (Know Your Customer) Verification will be required for all customers. It is a due diligence process to ensure the authentic identity.

Central Bank Digital Currencies

Through the use of a central bank digital currency, citizens can have direct access to a currency and related payment options backed by a central bank. The Bank of Russia is developing the national Digital Ruble, which will become the third form of Russia's national currency and will be used along with cash and non-cash rubles.[42] In Nigeria, the Central Bank has designed the electronic naira currency provided to people in possession of an identification document. Meanwhile, the Central Bank plans to expand access to this currency to anyone with a mobile telephone, which would include undocumented populations.[43]

41 Hernandez, Joe. "El Salvador Just Became the First Country to Accept Bitcoin as Legal Tender." *NPR,* September 7, 2021. Jan. 12, 2023 Accessed, https://www.npr.org/2021/09/07/1034838909/bitcoin-el-salvador-legal-tender-official-currency-cryptocurrency.

42 Bank of Russia, "Consultation Paper: Cryptocurrencies: Trends, Risks, and Regulation", Jan. 26. 2022, Feb. 4, 2023, Accessed. https://www.cbr.ru/Content/Document/File/132242/Consultation_Paper_20012022_eng.pdf.

43 "ENaria." Central Bank of Nigeria. Jan. 15, 2023 Accessed, https://www.cbn.gov.ng/currency/enaira.asp.

Problems to be Solved

Infrastructure-specific Issues and Financial Risks

a. Concerns for Custody of Cryptocurrencies

The value of cryptocurrencies is getting stable and more and more official issuers are involved, however, as the cryptocurrency develops, the risks to the global economy cannot be underestimated. The booming development of crypto assets in quantity and variety, as well as the characteristics of anonymity and decentralized trading, make the spread of financial risks faster. Therefore, the need to implement financial regulation on crypto assets is stronger than ever. Many financial risks hidden behind the booming development of crypto assets are unavoidable, such as illegal fund-raising, money laundering, and terrorism financing. The United States, the European Union, and other countries and regions have taken cryptocurrency as the focus of risk prevention and regulation in the field of technology and finance.

Regulatory powers

Challenges for the custody of crypto-asset activities and markets can result from the availability and exercise of existing regulatory powers. Such powers include those in charge of treating crypto-assets and activities that have brought or might bring risks to financial stability or that might not be within the jurisdictional regulatory perimeter, and those concerning the enforcement of laws or rules, when activities do not comply with jurisdictional regulations.

Figure 3 Diagram on the regulation of crypto-asset activities in regulatory framework[44]

Figure 3 shows the evaluation of the regulation applicable to crypto-asset activities in jurisdictional regulatory systems. When crypto-activities are conducted by an entity or the crypto-asset is regarded as a payment or financial instrument, they ought to be under jurisdictional regulatory frameworks based on certain international norms. However, in some cases, crypto-assets or relevant activities fall outside of the existing regulatory perimeter, which indicates a significant regulatory gap. For example, as per the definitions in the European regulatory framework, only 2% of the outstanding crypto-assets would fall within the scope of the existing MiFID II security regulation. Over 80% of them are crypto-assets that will be assessed by the forthcoming MiCA Regulation.[45]

44 FSB, "Regulation, Supervision and Oversight of Crypto-Asset Activities and Markets," *Financial Stability Board*, Oct. 11, 2022, Jan. 20, 2023 Accessed, https://www.fsb.org/2022/10/regulation-supervision-and-oversight-of-crypto-asset-activities-and-markets-consultative-report/.

45 FSB, "Regulation, Supervision and Oversight of Crypto-Asset Activities and Markets," *Financial Stability Board*, Oct. 11, 2022, Jan. 20, 2023 Accessed, https://www.fsb.org/2022/10/regulation-supervision-and-oversight-of-crypto-asset-activities-and-markets-consultative-report/.

Governance and accountability

A lack of well-structured and rational governance, which can occur when crypto-asset issuers and service providers are unregulated or do not follow applicable regulations, could induce or aggravate financial instability. The DAO hack is just one example of governance gone wrong within cryptocurrencies. Tezos, a cryptocurrency designed to solve governance issues through on-chain voting systems, was involved in a governance problem of its own after an investor filed a lawsuit against its founders. There are technical issues with the absence of governance systems as well. For example, the absence of replay protection could duplicate transactions across an old and new blockchain.[46]

The extensive application of decentralized technology in the governance of crypto-asset activities has resulted in inadequate transparency and a lack of accountability. It could be difficult to identify the entities or natural persons that should be responsible for good governance and regulatory compliance, as many crypto-asset issuers and service providers fail to form a transparent governance structure with a clear distribution of accountability. To give an example, people wonder who manages the exchanges. Since most cryptocurrency users buy and sell their currency through a coin exchange, the one who manages the exchange can get access to and control over users' money. Users have no choice but to trust whoever built the exchange, but exchanges can be compromised through poor security or even fraud on behalf of the exchange owners. What is more, in traditional financial systems, third-party regulators supervise and correct illegitimate transactions, but there are no regulators for cryptocurrency; the cryptocurrency itself is supposed to act as the regulating body.[47]

Cross-border cooperation

Cryptocurrency and crypto-asset activities are, by their very nature, operated in different countries and regions, which can create regulatory and enforcement problems. These stem from differences in regulatory classification among jurisdictions and cross-border cooperation arrangements that may not address the new needs for cross-border cooperation and information sharing. Countries are taking different strategies, and existing laws and regulations may not allow for national approaches that comprehensively cover all elements of these assets.[48] However, the fact is that many crypto service providers operate across borders, making the task for supervision and enforcement more difficult. Uncoordinated regulatory measures may facilitate potentially destabilizing capital flows. And accordingly, risks of regulatory arbitrage or evasion increase, as some actors may be motivated to plan their businesses to circumvent the application of certain jurisdictions' stricter regulatory requirements.

Standard-setting bodies that are in charge of various products and markets have provided different levels of principles to guide people. For example, the Financial Action Task Force has issued guidance for a risk-based approach to mitigating financial integrity risks from virtual assets and their service providers. Actions by other standard-setting bodies

46 Rakesh Sharma, "Governance: Why Crypto Investors Should Care," *Investopedia*, Jul. 24, 2021, Jan.20, 2023 Accessed, https://www.investopedia.com/tech/governance-why-crypto-investors-should-care/.

47 Daniel Jebaraj, "Accountability Issues with Cryptocurrency and Blockchain" *DATAVERSITY,* Aug. 26, 2019, Jan. 20, 2023 Accessed, https://www.dataversity.net/accountability-issues-with-cryptocurrency-and-blockchain/.

48 Tobias Adrian, Dong He, and Aditya Narain, "Global Crypto Regulation Should be Comprehensive, Consistent, and Coordinated," *IMF BLOG*, Dec. 9, 2021, Jan. 20, 2023 Accessed, https://www.imf.org/en/Blogs/Articles/2021/12/09/blog120921-global-crypto-regulation-should-be-comprehensive-consistent-coordinated.

range from broad principles for some types of crypto assets to rules for mitigating exposure risks of regulated entities and setting up information exchange networks.[49] These efforts are useful, however, they could not coordinated with each other sufficiently nor form a global framework for managing the risks to market integrity, financial stability, and consumer and investor protection.

Data management

Regulators and the general public may find it hard to acquire accurate data on crypto-asset activities. On the one hand, some of these activities are carried out by unregulated entities that are not subject to any requirements or the service provider does not collect data in accordance with existing requirements. On the other hand, there needs to be specific reporting requirements for traditionally regulated entities regarding their participation in crypto-asset activities. Compared with traditional financial services, cryptocurrency does not need too much support of infrastructure, but digital surveillance is indispensable. The lack of available and reliable data poses challenges for regulators when monitoring and evaluating the financial stability risks of cryptocurrency.

b. Pseudonymity and Anonymity

Almost all cryptocurrencies are featured as pseudonymity or anonymity. The anonymous transaction is a major feature of blockchain, which aims to speed up transactions and protect users' privacy. People who are engaged in such deals might be asked to enter a username and password to start a transaction so that security can be guaranteed. Even if securities are in place, cryptocurrencies are not un-hackable due to several factors.

Cyber Attacks

The risk of cryptocurrency cyber-attacks which target at core financial infrastructure is rising. That is because perpetrators can move and hold money pseudonymously and escape detection, and thereby succeed in ransomware demands.[50] There have been some cases that can explain this. A successful hack occurred against the Japanese exchange Coincheck, which lost over $500 million in cryptocurrency in the breach.[51] Such risk can cause serious interruption of trading and other services and threats to financial stability.

Illicit payments and activities

The pseudonymity of crypto-assets and the lack of transparency on the part of the intermediaries make crypto-assets, especially cryptocurrencies, an attractive means to fund other types of illegal activity. A notorious case is the Silk Road dark market created by Ross Ulbricht, on which narcotics, firearms, poisons, and other goods were sold.[52] Furthermore, non-custodial wallet users may trigger higher money laundering and terrorist financing risks, as they are pseudonymous or anonymous.

49 Ibid.

50 Office of Financial Research, "2017 Financial Stability Report," *Financial Research,* Dec. 5, 2017, Jan. 20, 2023, Accessed, https://www.financialresearch.gov/financial-stability-reports/2017-financial-stability-report/.

51 Josiah Wilmoth, "NEM Foundation Calls Off Chase for Stolen Coins from $530 Million Coincheck Hack," CCN, Mar. 23, 2018, Jan. 20, 2023, Accessed, https://www.ccn.com/nem-foundation-calls-off-chase-for-stolen-coins-from-530-million-coincheck-hack/.

52 Timothy G. Massad, "It's Time to Strengthen the Regulation of Crypto-Assets," *BROOKINGS*, March, 2019, Jan. 20, 2023 Accessed, https://www.brookings.edu/research/its-time-to-strengthen-the-regulation-of-crypto-assets/.

c. Vulnerabilities of Crypto Assets

The essence of crypto differs significantly from traditional assets, making it highly vulnerable compared to other currencies well-known by the public. It can be seen from the chart (Fig. 4) that two of the most popular crypto both showed a fluctuant trend, especially within recent years. Due to its unique marketing system, crypto is affected by changes in the global financial market in a different way. Additionally, there are particular reasons why the crypto market fluctuates.

Figure 4 Fluctuations in Bitcoin's and Ethereum's prices[53]

Over-dependence on Holders

Because crypto is not linked with physical currencies, the price depends mainly on holders' transactions. Though different technical support for each crypto will influence the price, we can still see a remarkable similarity between the variation tendency of Bitcoin's and Ethereum's prices. They both hold immense market value and share similar audience, which means one big trade can influence the crypto market. With trend trading, the price will change significantly in advance, creating a new trend and forming a cycle. According to some research about the valuation model in the blockchain, the number of users on Bitcoin Wallet affects the rate of return to some degree.[54] That may explain why Elon Musk advertised crypto fanatically as a significant holder of Bitcoin and Dogecoin.

d. Risks about Transactions and Exchanges

Crypto, as a commercialized innovation, is becoming a new investment instrument in financial institutions and trading platforms. In the crypto system, exchanges play the role of issuer and middleman simultaneously, which may cause numerous conflicts of interest. And the credit of these issuing centers differs significantly, making holders' crypto assets more vulnerable.

Credit Risk

Crypto depends entirely on the Internet and has no physical support like a bank. Most issuing institutions are private enterprises with unknown credit and funds to support the asset. Especially when transactions happen mainly within the crypto system, all the issuer's actions are unseen to holders. Though most people do not care about the specific process, if problems occur, the holders will probably know nothing about where their assets go.

53 Kris Marszalek, Rafael Melo, Bobby Bao and others, "Bitcoin Price", "Ethereum Price," Crypto.com, Jan. 17, 2022, Jan. 17, 2022, Accessed, Ethereum Price | ETH Price, News, USD converter, Charts | Crypto.com.

54 Lin William Cong, Ye Li, Neng Wang, "Tokenomics: Dynamic Adoption and Valuation," *The Review of Financial Studies* 00 (2020) 1-51.

Liquidity Risk

Nowadays, crypto is becoming more and more popular. Many people joined the game with a dream of windfalls and hardly any financial knowledge. The need for crypto rises rapidly when some of the issuing institutions still lack enough technology to support such liquidity, which may lead to the total eruption of the market. For crypto markets that depend primarily on liquidity to motivate their development, it is fatal to have a liquidity risk.

Deficiency of Legal Supervision and Management

a. Money Laundering

Money laundering refers to the behavior of intentionally legalizing the illegal income that one obtained. For example, one converses or transfers property which is gained from criminal activity, in order to conceal or disguise its illegal origin, including its source, true nature, movement, location, disposition and ownership, such conduct is a form of money laundering. When they just acquire the property, they know what they acquire is from illegal activity, but they still possess and use the property. People who help others to conduct in this way also have committed money laundering, even if they may have just abetted and given some suggestions.[55] Through money laundering, currency-bearing criminal activities are "cleaned", so that it becomes lawfully earned income.

In this definition, "property" refers to any form of assets, both corporeal and incorporeal, movable and immovable, tangible and intangible, and any form of legal documents or instruments that can prove the ownership or interest in these assets.[56]

Money laundering not only happens domestically, but also can be an international crime. The anonymity of cryptocurrency provides the world with a platform of unmonitored cross-border transactions, which has been chosen by "cash leaners" to conduct money laundering outside of regulation.[57] When the crypto players set the crypto markets in a place without effective money laundering legal supervision, it becomes a challenge for regulators.

b. Black Markets

The dark web has long and frequently been used as a platform for black markets. The illicit trading on the dark web may include drugs, malware, pirated media, forged documents, firearms, etc. The Silk Road dark web was one of the black markets.[58] The traders utilize the black market as a way to avoid the banking monitoring system. If the dark transaction was settled through a traditional bank account, the supervisors would quickly find out the traders by locating the bank account. Because of the need to disguise black market traders, anonymous cryptocurrencies have come to their attention. The crypto-asset wallets do not point to the identity of the traders, so it is difficult to figure out the

55 Robby Houben, Alexander Snyers, *Cryptocurrencies and blockchain – Legal context and implications for financial crime, money laundering and tax evasion* (European Parliament: Policy Department for Economic, Scientific and Quality of Life Policies, 2018), 59.

56 Ibid.

57 Robby Houben, Alexander Snyers, *Cryptocurrencies and blockchain – Legal context and implications for financial crime, money laundering and tax evasion* (European Parliament: Policy Department for Economic, Scientific and Quality of Life Policies, 2018), 53.

58 Timothy G. Massad, *It's Time to Strengthen the Regulation of Crypto-Assets* (Brookings: The Economic Studies at Brookings, 2019), 28.

person behind the transaction. Furthermore, the black market itself does not record and collect the users' names and addresses. Cryptocurrencies do not have an issuer, which means traders do not need to worry about the assets being frozen, either.

c. Terrorist Financing

Terrorist financing is providing or collecting funds directly or indirectly for terrorism. Such offenses may seriously harm a country or an international organization by intimidating other people and compelling the government or international organization.[59] For example, terrorists may kidnap a person and ask the victim's family members or friends for money, or the victim will be threatened with death. Hostage-taking often causes extensive destruction to a public facility, like a transport system, infrastructure, and information system.

Different from money laundering, the origin of the funds in terrorist financing is usually legitimate. Terrorism is the destination of the funds, making the deal illegitimate. Generally, in legal supervision and management, "funds" shares the same explanation as "property".[60]

Terrorists might utilize cryptocurrency due to its anonymity in the process of illegal conduct. There was a case of promoting virtual currency funds to terrorism in 2015. Ali Shukri Amin instructed other people on Twitter to fund the Islamic State of Iraq and the Levant (ISIL), through bitcoin. He facilitated supporters' travel to Syria to give material support and fight with ISIL.[61] This was a striking example of terrorist financing brought by the anonymity of cryptocurrencies.

In addition, cryptocurrencies often have no central intermediary, or issuer, who could bear the responsibility of regulation and legitimization.[62] Without supervision, cryptocurrencies are more likely to be used to commit crime.

d. Tax Evasion

Anonymity could also cause tax evasion, which means using cryptocurrency to trade without paying taxes. The taxation bureau does not know who is involved in a cryptocurrency transaction due to its anonymity, thus, it cannot detect or sanction such tax evasion.[63] Such characteristic makes cryptocurrency very attractive to tax evaders.

It should be also noted that some cryptocurrencies are pseudo-anonymous, which means that it is possible for the authorities to figure out the users – but with great effort and so

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59 Robby Houben, Alexander Snyers, *Cryptocurrencies and blockchain – Legal context and implications for financial crime, money laundering and tax evasion (*European Parliament: Policy Department for Economic, Scientific and Quality of Life Policies, 2018), 59.

60 Robby Houben, Alexander Snyers, *Cryptocurrencies and blockchain – Legal context and implications for financial crime, money laundering and tax evasion (*European Parliament: Policy Department for Economic, Scientific and Quality of Life Policies, 2018), 60.

61 FATF, "Report on emerging terrorist financing risks," *FATF,* Oct. 2015, Jan. 20, 2022 Accessed. www.fatf-gafi.org/publications/methodsandtrends/documents/emerging-terrorist-financing-risks.html.

62 Robby Houben, Alexander Snyers, *Cryptocurrencies and blockchain – Legal context and implications for financial crime, money laundering and tax evasion* (European Parliament: Policy Department for Economic, Scientific and Quality of Life Policies, 2018), 54.

63 Robby Houben, Alexander Snyers, *Cryptocurrencies and blockchain – Legal context and implications for financial crime, money laundering and tax evasion* (European Parliament: Policy Department for Economic, Scientific and Quality of Life Policies, 2018), 53.

phisticated techniques.[64] This is already applied in combatting money laundering, terrorist financing and tax evasion, but this approach is too complex and expensive to be generally used. Cryptocurrency is still commented as “tax havens”.[65] In this case, more structural supervision and management is desirable.

Specific Predicament in Developing Countries

a. Challenges for Capital Controls

Developing countries do not have enough capital flow for economic development, making capital controls crucial. It holds investors back from exporting many funds to foreign markets through taxes and guarantees a certain amount of funds in the domestic capital accounts. It is the primary way for most developing countries to preserve their policy space and macroeconomic stability.

However, crypto is a new capital circulation method that is especially hard to regulate. Most developing countries did not introduce any tax policies about crypto, so it is totally out of control when transactions happen in the crypto market. Therefore, it also enables tax evasion and avoidance.[66] And sometimes, due to the anonymity of the crypto system, it is hard to locate the trader. All the transactions are operated by the center process, which creates many obstacles for government to distinguish an export from a domestic transaction.

b. Interference in Public Payment Systems

The monetary policy, including money supply, monetary base and money velocity, plays a vital role in maintaining the public payment system.[67] In most developing countries, crypto is not yet included in the policy, so the use of crypto may cause a crash to the physical currency. With the popularity of crypto rising and the physical currency failing, the monetary policy will no longer have validity for most transactions. Then, the public payment system will be out of the government's control, causing various financial problems. Furthermore, the monetary sovereignty of countries might be jeopardized.

c. Inequality Concerns

Crypto has been a way to protect household savings when the traditional market is unstable. Due to the imperfection of financial regulation in developing countries, it's more alluring to middle-income individuals in developing countries. However, most people cannot take the burden of crypto transaction in many ways. And there is not enough regulation guaranteeing their rights and interests. Therefore, it has lost its function of preserving assets, instead, it has increased the wealth disparity and caused more severe inequality problems.

64 Robby Houben, Alexander Snyers, *Cryptocurrencies and blockchain – Legal context and implications for financial crime, money laundering and tax evasion* (European Parliament: Policy Department for Economic, Scientific and Quality of Life Policies, 2018), 53.

65 Ibid.

66 Richard Kozul-Wright, “The cost of doing too little too late: How cryptocurrencies can undermine domestic resource mobilization in developing countries,” *UNCTAD Policy Brief*, no.102, (2022).

67 常亚楠，“虚拟货币的法律属性审思与规制完善”，*金融理论与实践*，no.4 (2022): 513.

Hardware Requirement

"Mining coins" became extremely popular for holders of crypto. It is a process of solving complex mathematical problems continually to bring crypto into circulation, which requires powerful computers.[68] Though many people are longing for this method of getting rich, only a minority can provide technologies advanced enough.

Energy consuming

According to some commentators, every Bitcoin transaction consumes 980 kWh of energy, enough to power an average Canadian home for more than three weeks. The amount of energy needed for each transaction is enormous. And with the crypto audience rising, more energy will be consumed. For families, only a few people can afford such an electric bill. For countries and the globe, it is increasing the energy crisis that is especially severe for developing countries. Many of them do not have enough sources or technology to support even daily use, not to mention uses like crypto transactions.

d. Case Studies

Brazil

Brazil stands as the fifth largest market in terms of crypto ownership. There were 3.1 million Brazilian crypto users in 2019. In 2020, the Brazilian government legitimized Brazil's crypto scene, but there was no legal framework addressing crypto in Brazil. Therefore, an increasing number of crypto scams occurred in Brazil. The worsen situation has led to many people associating Brazilian crypto players with scams. A Bitcoin scam also came to the forefront in 2019. As per reports, the fraud amounted to almost $360 million. A group of scamsters lured Brazilians by promising them huge returns. The country's police department led the investigations. The police operations ran for over four months.[69] These illegitimate acts bothered Brazilian people and the government a lot. It has caused a severe reputational damage of Brazilian people during crypto transactions and interrupted the normal proceed of domestic financial market.

Cuba

Cuba has recognized and regulated crypto. Cuba's decision to join El Salvador in embracing decentralized virtual cash could help circumvent the U.S. sanctions regime, which was dialed up under former President Donald Trump. In 2020, Western Union, a particularly effective channel for remittances operating in Cuba for more than 20 years, shuttered all of its 400-plus locations. The process of getting money into and out of the country was made even more complicated by the Covid-19 pandemic. Therefore, the use case for crypto in Cuba transcends the cross-border money transfer. However, many exchanges, including those not based in the U.S., continue to geo-block Cubans, which makes Cubans still face a lot of difficulties and risks.[70]

68 André François McKenz, "Sustainability solution or climate calamity ? The dangers and promise of cryptocurrency technology", UN News Economic Development, Jun. 20, 2021, Jan. 17, 2023, Accessed https://news.un.org/en/story/2021/06/1094362.

69 Xena, "Crypto in Brazil – The Current Scenario," NOWPayment.io. Jul. 27, 2022, Jan. 18, 2023, Accessed. Crypto in Brazil: Scams, Regulation, Exchanges | NOWPayments.

70 MacKenzie Sigalos, "Cuba's central bank now recognizes cryptocurrencies such as bitcoin," CNDC, CRYPTO DECODED. Aug. 27, 2021, Jan. 18, 2023, Accessed, Cuba's central bank now recognizes cryptocurrencies such as bitcoin (cnbc.com).

Possible Solutions

Innovating the Technology and Reducing Financial Risks

a. Enhancing the Transparency of Financial Institutions

In a community where central bank digital currencies exists, a community where crypto assets and coins can be blocked, seized, or frozen, financial data is the main key to control one's ability to make transactions, a key to control one's ability to earn, buy or sell in the crypto digital world.[71] Therefore, it is necessary that financial institutions provide more information concerning different industries, especially cryptocurrency, and at the same time, guarantee the reliability, precision and comprehensiveness of the data. At present they should go further in data collection and reporting.

For more effective and accurate data collection, crypto-asset issuers and service providers should be required to have robust mechanisms for collecting, storing, safeguarding, and timely reporting information, including relevant policies, procedures, and infrastructures needed. Authorities should have access to the data as necessary and appropriate to fulfill their regulatory and supervisory mandates. What's more, relevant data ought to be accessible for authorities, wherever the data is located, to make sure that the functions and activities of the crypto-asset activities and markets are stringently supervised.

More importantly, for data reporting, it needs to be highlighted that customers or target audience should be informed of the conclusions that are summarized and analyzed by authorities. Therefore, authorities should utilize existing efforts to promote consistent data reporting based on activity types and economic functions or consider developing new reporting frameworks or policies to support data collection and sharing. Their findings and suggestions help promote the public understanding of crypto-asset markets.

One of the key benefits of utilizing cryptocurrencies in developing economies is their ability to improve transparency in financial transactions. The blockchain is a public record that enables anybody to see transactions made with Bitcoin and other cryptocurrencies. The blockchain records these transactions. By making all transactions public and easily auditable, it becomes significantly more difficult for fraudulent conduct and instances of corruption to occur.[72]

b. Facilitating Surveillance Technology

Intending to promote technological innovation and digital transformation of cryptocurrency regulation, it is necessary to accelerate the establishment of a full-chain transaction database including all currencies, all modules, all links and all periods, and a wallet address label database including wallet service providers, registered producers and involved situations, and continuously collects updated data on the chain such as the latest block transactions. Based on fully integrated on-chain data, a cryptocurrency tracking and risk

71 Trevor Holman, "Crypto's Transparency Problem," *CryptoNewsZ*, Feb. 25, 2022, Jan. 21, 2023 Accessed, https://www.cryptonewsz.com/cryptos-transparency-problem/.

72 *CryptoEvents*, "The role of Cryptocurrency in Increasing Transparency in Developing Economies," CryptoEvents, Feb. 6, 2023, Feb. 9, 2023 Accessed, https://cryptoevents.global/the-role-of-cryptocurrency-in-increasing-transparency-in-developing-economies/#:~:text=One%20of%20the%20key%20benefits%20of%20utilizing%20cryptocurrencies,and%20other%20cryptocurrencies.%20The%20blockchain%20records%20these%20transactions.

monitoring platform should be established, combined with cryptocurrency exchange data, bank payment and settlement data and anti-money laundering data, with the guidance of the principle of anti-anonymity and traceable transaction. These goals require efforts from regulators and financial authorities from different countries and standard-setting bodies. By using modelling, data screening and other methods, comprehensive data research and judgment, early warning and monitoring should be carried out to identify suspicious transactions and illegal and criminal behaviors.

c. Managing Decentralized Financing Protocols

Generally speaking, the regulation of DeFi focuses on crypto-assets. So far, there has not been a global regulatory regime to deal with the money laundering and financial stability risks associated with DeFi. Efforts have mainly focused on regulating anti-money laundering or Know Your Customer (KYC) for centralized institutions such as cryptocurrency exchanges and wallet providers through the Financial Actions Task Force, which works to detect money laundering and terrorism financing.

In light of the global coverage of DeFi and the limitation of existing financial instruments to regulate DeFi software protocols, the best method would be to create international standards for building regulatory-compliant DeFi protocols with a special focus on stablecoins.[73] One measure is that protocols should recognize when a 1:1 ratio is maintained between the stablecoin and the central bank digital currency. This helps to avoid relying on stablecoins that are backed by cash equivalents (including commercial papers and other debt instruments) that are not cash. Another measure is to require the exclusive use of algorithmic-backed stablecoins in DeFi as these rely on algorithms to maintain a stable value by expanding and contracting their circulating supply in response to market behavior.[1] These global solutions may have wider and more significant coverage than any existing regional approach to managing DeFi.

d. Ensuring Technical and Jurisdictional Interoperability

Technology can aid the enforcement of the law, while the research and development of new technology should also be regulated by law. It is essential for fighting against cryptocurrency crimes to effectively carry out investigation and evidence collection, and accurately capture and combat criminals, with the assistance of technology.

However, as early as 2018, some organizations have recognized the challenges posed by cryptocurrency anonymity technology, black market transactions, and the lack of cryptocurrency tracking tools. In 2018, International Criminal Police Organization (INTERPOL) founded a working group that specializes in the research and development and training of criminal investigation related to the darknet and cryptocurrency. The group is a global platform for fighting criminals who seek to exploit anonymization techniques.[74]

Therefore, public security organs should carry out in-depth research in this field, develop technical tools that can provide strong support for the investigation of cryptocurrency crimes, and maintain the sensitivity of new technologies to prevent effective investigation of cryptocurrency crimes at all times. The primary task is to establish a cryptocurrency

73 Salami, Iwa. "Challenges and Approaches to Regulating Decentralized Finance." *AJIL Unbound* 115 (2021): 429.

74 INTERPOL, "INTERPOL holds first DarkNet and Cryptocurrencies Working Group," INTERPOL, Apr. 3, 2018, Jan. 21, 2023, Accessed, https://www.interpol.int/en/News-and-Events/News/2018/INTERPOL-holds-first-DarkNet-and-Cryptocurrencies-Working-Group.

crime tracking platform to effectively help the conviction and investigation of cryptocurrency crime cases, to pinpoint criminal clues, and to monitor the Internet, on-chain contract data and full data of addresses at any time. In this way, the efficiency of research and judgment can be guaranteed. In addition, it is necessary to keep an eye on the development of relevant technologies and keep abreast of the latest crime trends, or even ahead of them.

Improving the System of Legal Frameworks

a. Building Consumer and Investor Protection Mechanisms

Crypto-asset markets have evolved rapidly, destabilizing global finance. Such evolvement scaled up the markets, making the structure more difficult to be regulated and controlled.[75] In this regard, legal frameworks should be improved to ensure consumers' and investors' confidence in cryptocurrencies.

The cryptocurrencies are recorded and circulated via data. Crypto-asset market participants need to see more transparent markets, which is mentioned in the previous chapter. Governments and NGOs should also monitor and address risks from crypto-asset markets. For example, crypto trading platforms should be built under the legal framework.[76] Regulatory and supervisory institutions shall examine the challenges that crypto-asset markets exist, especially markets that relate to cross-border transactions and maintain the markets stable.

For investors and consumers, there should be a public bailout if they are facing investment failure.[77] Central bank intervention is one way to protect a bulk of users' private data. It also can limit transactions geographically, making the markets easier to be regulated. In practice, except for central bank digital currencies, all cryptocurrencies and crypto exchanges are prohibited in more than 40 countries.[78] Because in many developing countries, consumers are often with a relatively low level of financial literacy. In these countries, the advertisement of crypto exchanges is banned in public spaces, including social media, preventing more losses in exposure to cryptocurrencies.

b. Addressing Financial Crimes

Common financial crimes, including money laundering and terrorist financing, are mainly based on the anonymity of cryptocurrencies. To address financial crimes, an important step is to implement real-name digital currency wallets and accounts. Once the linkage is set up, the judiciary authorities are able to figure out people who participate in illicit financial flows. This would also pull out cryptocurrencies from the grey zone and define their legal status.

75 Financial Stability Board, *Assessment of Risks to Financial Stability from Crypto-assets* (Financial Stability Board, 2022), 19.

76 Financial Stability Board, *Assessment of Risks to Financial Stability from Crypto-assets* (Financial Stability Board, 2022), 20.

77 UNCTAD, *Policy Brief No.100,* (UNCTAD, 2022), 3.

78 UNCTAD, *Policy Brief No.100*, (UNCTAD, 2022), 4.

Based on the already-known financial crime cases, UNCTAD suggests individuals or enterprises with access to private data should be under stricter supervision.[79] The supervisors can be crypto-asset market operators, who are responsible for checking and verifying users, especially vendors of their platforms. As gatekeepers of digital platforms, their conduct would be supervised by blockchain regulators.[80]

c. Promoting Tax Regulations

Anonymity or pseudonymity of accounts, insufficient fiscal oversight and weak enforcement are characteristics shared by traditional tax havens and cryptocurrencies. Tax regulation on cryptocurrencies is urgently needed in developing countries.

The cryptocurrency tax regulations are supposed to be agreed upon universally so as to keep an eye on cross-border cryptocurrency transactions, in which the evasion of capital controls might be found. Global tax coordination may help countries to enforce taxes in cryptocurrency holding and trading. UNCTAD suggests Member States impose higher taxes on cryptocurrencies and limit crypto exchanges to avoid more negative socioeconomic impacts.[81]

d. Case Study

The European Union has established the General Data Protection Regulation (GDPR) to manage data in digital transactions within the EU.[82] It is well adapted to the supranational characteristic of crypto-asset markets. GDPR requires digital markets explicitly inform users how they will use those personal data. Under the GDPR framework, users can determine whether and to what extent they provide with their personal data. Thus, the digital markets' access to users' information is limited. Users can also have a clear understanding of where their personal data go, since markets can trace every single transaction made in cyberspace and detect illegal behaviors.[83]

Global Cooperation

Since the crypto system depends wholly on the Internet, it is not restrained by geography. Transactions are free to be made in a cross-border way, which makes the crypto market a brand-new international financial trading market.[84] It requires a unified regulatory system worldwide that consists of all kinds of global cooperation.

79 UNCTAD, *Harnessing Blockchain for Sustainable Development: Prospects and Challenges,* (United Nations: Geneva, 2021), 30.

80 UNCTAD, *Harnessing Blockchain for Sustainable Development: Prospects and Challenges*, (United Nations: Geneva, 2021), 43.

81 UNCTAD, *Policy Brief No.102*, (UNCTAD, 2022), 4.

82 UNCTAD, *Harnessing Blockchain for Sustainable Development: Prospects and Challenges*, (United Nations: Geneva, 2021), 43

83 Lokke Moerel, "Blockchain & Data Protection… and Why They Are Not on a Collision Course" European *Review of Provate Law*, No. 6, 2019, p. 835.

84 Chen Xisheng, *Money Laundering Using Digital Cryptocurrency: Regulatory Challenges and Institutional Improvements,* (Jiangxi, Jiangxi University of Finance and Economics, 2022), 19.

a. Establishing Comprehensive Financial Regulations

Nowadays, cross-border investments and transactions have been formalized in the crypto system. Some NGOs and NPOs, like the Financial Action Task Force (FATF), published regulatory agreements on virtual assets and called upon member countries to focus on the regulation of crypto from a few aspects, such as preventing money laundering and improving surveillance technology.[85]

Setting Shared Goals

Although crypto is very popular in developing countries, the popularity still varies among countries, making each government have a different focus on financial regulations. However, in order to establish international cooperation, joint efforts towards a shared goal are certainly required. Whether it's about technical cooperation, or the supervision of illegal acts, governments can have more exchange of views. Hence, governments need to discuss the priority of various risks for the globe nowadays as well as reach an agreement on it.

For example, the project of Multilateral-Central Bank Digital Currencies, which includes The People's Bank of China, the Hong Kong Monetary Authority, the Bank of Thailand and the Central Bank of the UAE, represents that the governments of China, Thailand and the United Arab Emirates have had a shared goals on innovating a digital payment system to replace the less-regulated crypto.

Unifying Stipulations

Due to the variation of legal systems, countries identify illegal acts differently. This may create more space for criminals around the world. They can choose to conduct illegal activities in countries that do not have many penalties or even do not recognize them as illegal acts. Although it is impossible to establish unified management rules covering every aspect, governments need to reach as much agreement as possible to establish comprehensive regulation, which may allow judicial organs to work transnationally and boost the efficiency of tracing cross-border illegitimate acts.

b. Compiling Public Payment Systems

The rise of crypto shows people's dissatisfaction with the public payment system, so simply curbing the use of crypto cannot tackle the root cause of the problem. It is the governments' duty to satisfy people's needs by compiling public payment systems under better regulation to offer a better option for crypto holders. The new payment system has to contain similar advantages to crypto, like the high efficiency of cross-border payment. Besides, it should meet the need for financing and investment as well as provide a safer, more reliable, and affordable payment system, which means it should be combined with related legal provisions and totally under the financial regulatory system in order to provide enough stability and financial value.[86] The establishment of the new global market demands joint efforts.

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85 FATF, *Updated Guidance for a Risk-Based Approach to Virtual Assets and Virtual Asset Service Providers,* (Paris: FATF, 2021).

86 UNCTAD, "Policy Brief No.100," UNCTAD Policy Brief, Jun. 2022, Jan. 21, 2023, Accessed. https://news.un.org/en/story/2022/08/1124362.

c. Promoting Information Sharing

Since the regulation of crypto is a rather new subject for every country, especially for developing countries, governments need to communicate with each other and learn more from developed countries with more experience.

Technology and Institution

Countries with more experience regulating crypto may have advanced technology and administrative ideas, which are crucial information worldwide. And for developing countries, they are all struggling to innovate more on technology and institution regarding the regulation of crypto. Critical communication and cooperation can help a lot when facing obstacles for them.

Even though institutions may differ from polities, communication offers the opportunity for mutual learning of ideas, which is essential for political development. Then, governments can make slight changes freely due to various domestic conditions. The excessive similarity of the regulation system may help criminals develop ways to escape from control more easily and rapidly.

On this aspect, central banks should establish a forum to exchange information related and discuss about how to promote the transparency domestically and internationally. Besides, some enterprises working on blockchain are encouraged to form more cross-border projects.

Against Illegitimate Acts

Most criminal gangs in the crypto system have a global reach, so it is almost impossible to investigate these cases with the judicial power of merely one country or even one region. Establishing an information-sharing system against illegitimate acts around the world can be essential, which means the data reporting can be shared among regional countries. NGOs are encouraged to investigate related date and publish more reports as well. It matches the globality of the crypto market and is able to be formed under the framework of the UNCTAD. Therefore, judicial power around the world can be deployed more wisely, and the control of the crypto market can be more powerful as well as efficient.

Bloc Positions

China

The People's Bank of China (PBoC) banned financial institutions from handling Bitcoin transactions in 2013, and banned Initial Coin Offerings and domestic cryptocurrency exchanges in 2017. The country has a global reputation for strict currency control regulations on the majority of foreign currencies, including cryptocurrencies.[87] In May 2021, China banned financial institutions and payment companies from providing services pertaining to cryptocurrency transactions. In September 2021, a blanket ban on all crypto transactions and mining was released.[88]

The development of cryptocurrency in China could be described as follows. Since the birth of bitcoin and its introduction in China in 2009, China has lacked clear regulatory rules for bitcoin transactions, and bitcoin transactions have been free-wheeling. In 2013, China issued a notice on preventing the risks of bitcoin, then financial regulatory authorities followed the basic principles of bitcoin regulation. First, financial and payment institutions are prohibited from directly participating in bitcoin transactions and providing any financial intermediary and support services for bitcoin transactions; second, websites providing bitcoin registration and trading services should put on record in telecommunication management authorities; third, relevant departments should strengthen the prevention and supervision of money laundering risks concerning bitcoin; fourth, bitcoin does not have the same legal status as a currency, and it cannot and should not be used as currency in the market. However, as a virtual commodity, the public can rationally invest and participate in bitcoin transactions. In 2017, the PBoC and eight other ministries and commissions issued an announcement on preventing the financing risks of token issuance, which essentially banned all issuance and trading of cryptocurrencies. Since then, the issuance, trading and related activities of all cryptocurrencies and tokens have been illegal in China, and cryptocurrency has been strictly and comprehensively supervised in China.

Here are some official reactions to cryptocurrency in recent years. In July 2019, China's Hangzhou Internet Court found bitcoin is a commodity because it carries value, it is scarce, and it can be used to transfer value. Moreover, the state-owned Bank of China posted an infographic on its website explaining the history of bitcoin and how cryptocurrencies work. As of June 2020, the Shanghai No.1 Intermediate People's Court ruled that bitcoin is an asset protected by law, and the Shenzhen Futian District People's Court ruled that Ethereum is a legal property with economic value. In addition, under a 2020 amendment to China's Civil Code, the government ruled that state-approved cryptocurrencies had the status of property for the purposes of protecting cryptocurrency inheritances.[89]

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87 COMPLY ADVANTAGE, "China Cryptocurrency Regulation," *COMPLY ADVANTAGE*, May 5, 2022, Jan. 25, 2023 Accessed, https://complyadvantage.com/insights/crypto-regulations/cryptocurrency-regulations-china/.

88 Nasdaq, "Cryptocurrency Regulation Summary: 2022 Edition," *Nasdaq,* Jul. 22, 2022, Jan. 25, 2023 Accessed, https://www.clubgestionriesgos.org/wp-content/uploads/Cryptocurrency-Regulation-Summary-2022-edition.pdf.

89 Nasdaq, "Cryptocurrency Regulation Summary: 2022 Edition," *Nasdaq,* Jul. 22, 2022, Jan. 25, 2023 Accessed, https://www.clubgestionriesgos.org/wp-content/uploads/Cryptocurrency-Regulation-Summary-2022-edition.pdf.

The United States

In the United States, the issuance and trading of various cryptocurrencies are quite developed. Not only the spot market is active, but the Chicago Mercantile Exchange and Chicago Board Options Exchange have also launched futures contracts and binary options based on Bitcoin in recent years.[90] The superficial phenomenon is that the US regulations on the issuance and trading of cryptocurrencies are comparatively relaxed, giving the signal that people are encouraged to try new things concerning financial innovation. However, the fact is, despite the active market in the US, the US financial regulatory authorities are quite vigilant and concerned about the development of cryptocurrency. The US regulatory authorities are not very strict in the regulation of cryptocurrency at present, which is largely affected by the US financial regulatory framework, rules, and even culture, and the authorities are making active efforts to break such restrictions.

Currently, bitcoin is the most influential cryptocurrency in the US. The US has not only formed an active cryptocurrency spot market but also formed a Bitcoin-based derivatives market covering both on and off the market for the most influential Bitcoin. More than 600 digital tokens are already being traded on the spot market for cryptocurrencies in the US. In the derivatives market of cryptocurrency, the US not only has in-exchange derivatives based on bitcoin, such as bitcoin futures and bitcoin options. There have also been bitcoin-based swaps. Specifically, the LedgerX Exchange was registered as a swap execution facility in July 2017, and its Bitcoin options were certified and began trading in September 2017.[91] In the same year, the Chicago Mercantile Exchange and the Chicago Board of Trade listed and traded new futures agreements based on Bitcoin through a product self-certification program. Compared with other developed countries and China, the US has a spot market and derivatives market based on cryptocurrencies, which is incomparable in terms of size and activity.

As for cryptocurrency regulation, currently, there is no direct and comprehensive cryptocurrency regulatory framework in the US, instead, the cryptocurrency market is supervised jointly by several regulatory agencies. The US Securities and Exchange Commission is responsible for regulating the issuance and trading of digital tokens, while the US Commodity Futures Trading Commission is in charge of regulating the cryptocurrency spot market and the derivatives market. There are also banks, tax authorities, law enforcement systems, etc. The US has formed a complete and non-overlapping regulatory framework for cryptocurrency, including the spot market and derivatives market.

Three prominent features can be summarized from the regulatory actions of the US towards cryptocurrencies. First, it is somewhat tolerant towards the issuance and sale of digital tokens on the whole. Second, relevant authorities take decisive enforcement action and impose penalties on digital coin offerings suspected of fraud and market manipulation. The US Securities and Exchange Commission has carried out a large number of regulatory enforcement actions against digital coin offerings and transactions. According to statistics, from June 2015 to November 2019, the US Securities and Exchange Commission launched regulatory investigations and enforcement penalties in more than 44 cases involving digital coin offerings and trading.[92] In this way, the US ensures that the

90 王鑫 , 李支 , “美国加密货币监管框架的建构及其启示 ,” *新金融* , no. 2(2020): 57-64.

91 Ibid.

92 U.S. SECURITIES AND EXCHANGE COMMISSION, “Crypto Assets and Cyber Enforcement Actions,” *U.S. SECURITIES AND EXCHANGE COMMISSION,* Nov. 4, 2022, Jan. 25, 2023, Accessed https://www.sec.gov/spotlight/cybersecurity-enforcement-actions.

development of the cryptocurrency market will not be out of control. Third, by explicitly incorporating digital tokens into its regulatory scope and guiding market expectations through policy statements, the cryptocurrency market will be further developed in a more standardized manner and become an effective tool for capital formation in the US capital market.

There are some experiences that developing economies can learn from the US regulation on cryptocurrency. First, the US has a broad definition of Security Token Offering, which makes it easier to regulate new things such as cryptocurrencies. The second is to pay close attention to cryptocurrencies like bitcoin and emerging things like cryptocurrency exchanges at the beginning of their emergence, to prevent and punish fraudsters who commit Ponzi schemes, money laundering and securities fraud through cryptocurrencies. Third, the US reminds investors to be highly vigilant about issues such as cryptocurrency brought by the new technology of blockchain while maintaining a supportive and tolerant attitude towards them.

European Union

The EU governments treat crypto quite neutrally. They have committed crypto as a kind of commodity, instead of currency. The word “cryptocurrency” was first proposed by the European Central Bank when researching Bitcoin.[93] Therefore, the study of crypto started very early in Europe, but the regulatory framework is still not complete. However, the tax code for crypto varies among nations.

a. Legal Provision

In 2012, the European Central Bank published the “Virtual Currency Schemes”, which called crypto “a type of unregulated, digital money, which is issued and usually controlled by its developers, and used and accepted among the members of a specific virtual community”.[94] It stipulated that crypto could be used to purchase objects or other services and goods. However, according to this report, crypto was not linked with any official currencies, so it was risky and unable to cause many problems. Therefore, the EU governments did not have much consistent effort on regulating crypto. There were only a few warnings about the risks of using crypto from the Euro Banking Association.

Since the development of crypto in Europe has been a long time, there was a lot of cases of disputes during crypto transactions and blockchain technology. The “Rome I Regulation” and the “Rome II Regulation” has been the legal basis for them. Besides, many research results from European jurist has laid the basis of law about crypto regulation.

The unique definition of crypto in Europe is worth learning for developing countries. Considering crypto more a commodity instead of currency may makes it easier to fit in the existing regulatory system. The “Roman Regulation” can also provide a fundament for the perfection of legal systems and multiple cases worth studying to prevent further crimes.

93 Chen Xisheng, *Money Laundering Using Digital Cryptocurrency: Regulatory Challenges and Institutional Improvements,* (Jiangxi, Jiangxi University of Finance and Economics, 2022), 21.

94 European Central Bank, *Virtual Currency Schemes* (Germany: European Central Bank, 2012), 13.

b. International Cooperation

Lately, the European Commission has recognized the importance of a legal and regulatory framework for crypto, so it has made multiple new attempts via cooperation. The European Central Bank and the European Commission had a series of cooperation on developing a digital Euro to replace the unregulated crypto, which responded to the call of UNCTAD. Besides, multiple organizations are working on research about crypto regulation, such as the Markets in Crypto-Assets Regulation and the EU Blockchain Observatory & Forum.[95]

Australia

The crypto market has developed rapidly in Australia, and the Australian government has a series of laws regulating it as well. Crypto trading is legal in Australia and crypto is considered property under the law. Therefore, crypto is subject to capital gains tax for consumers as well as trading stock for business, which shows the openness of the Australian government towards crypto. Existing legal guidelines used for traditional financial products and services have mostly been applied to the use of crypto. There is also specific law for crypto, such as the "Corporation Acts (2001)". The legal framework of Australia is already taking the lead around the world.

However, illegitimate acts like tax evasion still exist. And no crypto products are currently regulated under an Australia Financial Services License, which is a great hidden danger for a domestic financial order.

Additionally, Australia has joined numerous cooperation to fuel its development of crypto technology, like the Global Financial Innovation Network and the Asia-Pacific Fintech Network.[96]

India

7.3% of Indians own digital currency, which ranked No. 7 in 2021.[97] The Reserve Bank of India (RBI) plays the role of the central bank of India. The RBI concerns about market integrity and money laundering problem in crypto transactions and it always warns the public not to invest in cryptocurrencies out of consumer protection. It banned using cryptocurrencies in Indian banks in April 2018.[98]

However, the RBI welcomes blockchain technology, and has always been researching the application of Indian central bank digital currency (CBDC). It was reported in April 2017 that the RBI was developing its own CBDC, and in April 2018 it was trying to apply the rupee to CBDC.[99]

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95 European Commission, "Legal and regulatory framework for blockchain", *European Commission*, Jun. 7, 2022. Jan. 27, 2023, Accessed. Legal and regulatory framework for blockchain | Shaping Europe's digital future (europa.eu).

96 Ryan McCall, Trent Barnes, and the others, "Crypto Industry in Australia – Integration and outlook," *ZEROCAP*, Feb. 16, 2021. Jan. 27, 2023, Accessed, The Crypto Industry in Australia - Integration and outlook - Zerocap 2023 Insights.

97 UNCTAD, *Policy Brief No.100*, (UNCTAD, 2022), 2.

98 Nasdaq, *Cryptocurrency Regulation Summary: 2022 Edition*, (Nasdaq.com: Crypto-surveillance, 2022), 9.

99 Ibid.

The Indian Supreme Court clarified the ban over-turned in 2020.[100] One year later, the Lok Sabha published a crypto regulatory framework proposal on its official website. Although *the Cryptocurrency and Regulation of Official Digital Currency Bill, 2021* was unapproved in the session, in May 2021, the RBI cancelled the April 2018 ban on cryptocurrencies, which was recognized as the approval of cryptocurrency from RBI.[101] This meant that India would be capable of regulating crypto platforms and fighting against financial crimes and tax evasion. Indian banks were asked by the RBI to make a basic investigation on the customers.

Except for the banking system, Securities and Exchange Board of India (SEBI) could also participate in regulating cryptocurrencies. But in October 2021, SEBI was still insisting that crypto-related activities were "unregulated activities".[102]

In February 2022, the Advertising Standards Council of India released new guidance on advertising cryptos, which came into effect on April 1st. It prohibits using words like custodian, depositories, securities and currencies in crypto advertisements, because consumers often related these terms to regulated products.

The reason behind the disunity between Indian courts and banks might be the concern about financial terrorism in India. It has been investigated that Hizb-ul-Mujahideen was receiving funds from Pakistan through cryptocurrency to support its terrorist activities in India.[103] The terrorist organization first raises funds in other countries, and then transfers money to India via Pakistan. In this regard, India is very cautious about cross-border data flows. The Foreign Exchange Management Act has been passed by the Parliament of India to keep such terrorist financing in check. However, the punishment is really mild. Terrorist financing criminals would only be fined three times the amount of funds raised and be confiscated domestic value that equivalent to one's foreign property.[104] There is an urgent need for Indian policymakers to formulate strong laws addressing financial crimes via cryptocurrency, so as to provide India with a more secure cryptocurrency circulation environment.

Argentina

Investing in cryptocurrencies is allowed in Argentina. Crypto-assets account for a significant portion of Argentine savings and assets, and crypto market has become a prosperous industry.[105] The government has issued some regulations concerning payments, investments and transactions of crypto-asset markets and fighting against tax evasion. 4% to 6.5% of gross income in crypto transactions will become national tax revenue, which is relatively higher than other kinds of taxation.[106]

100 Susannah Hammond, Todd Ehret, *Cryptocurrency regulations by country,* (Thomson Reuters Institute, 2022), 32.

101 Nasdaq, *Cryptocurrency Regulation Summary: 2022 Edition,* (Nasdaq.com: Crypto-surveillance, 2022), 10.

102 Ibid.

103 FATF, "Report on emerging terrorist financing risks," *FATF,* Oct. 2015, Jan. 20, 2023 Accessed. www.fatf-gafi.org/publications/methodsandtrends/documents/emerging-terrorist-financing-risks.html.

104 Parliament of India, "The Foreign Exchange Management Act, 1999," *Indiangov*, Dec. 29, 1999, Feb. 12, 2023 Accessed, https://legislative.gov.in/sites/default/files/A1999-42_0.pdf.

105 Susannah Hammond, Todd Ehret, *Cryptocurrency regulations by country*, (Thomson Reuters Institute, 2022), 5.

106 Ibid.

The Argentina Securities and Exchange Commission (CNV) is responsible for cryptocurrency regulation. People who participate in digital transactions should be registered by CNV, and their transactions are reported to the Financial Information Unit. This policy is carried out for anti-money laundering.[107] The central bank of Argentina and Argentina's Federal Administration of Public Income will also collect information of crypto exchanges.[108] The financial system protects users' personal data with the application of GDPR.[109]

107 Susannah Hammond, Todd Ehret, *Cryptocurrency regulations by country*, (Thomson Reuters Institute, 2022), 5.

108 Susannah Hammond, Todd Ehret, *Cryptocurrency regulations by country,* (Thomson Reuters Institute, 2022), 6.

109 UNCTAD, *Digital Economy Report 2021*, (United Nations: Geneva, 2021), 104.

Questions to Consider

How can the cryptocurrency optimize the exchange process between different currencies?

What are the risks of regulating cryptocurrency?

If countries hold different opinions toward cryptocurrency, how can global cooperation be reached?

How should a developing learn from other countries' experience in supervising cryptocurrency transactions? Is it possible to redesign a country's cryptocurrency regulatory system?

What are the difficulties in addressing financial crimes?

What can be done to prevent cryptocurrency from being tax havens?

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