CRYPTO ASSETS

WHAT ARE THEY AND HOW SHOULD THEY BE CLASSIFIED IN INDIA?

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A. INTRODUCTION

There are over 12,000 different types of crypto-assets, each providing unique services and functionalities. Despite this abundance, there is limited understanding about what these assets are. Moreover, these assets represent a nascent technology that is rapidly evolving. As such, defining and classifying them for the purpose of regulation presents a continuous challenge.

This paper attempts resolve these ambiguities by explaining what crypto-assets are and highlighting the positive and negative aspects of approaches taken by different institutions and jurisdiction to define and classify them. Further, it suggests a way to classify crypto-assets in India to enhance the ability of authorities to effectively regulate them.

B. UNDERSTANDING DIGITAL ASSETS AND THEIR CRYPTOGRAPHIC VARIANTS

1. What is a digital asset?

A digital asset is anything that can be stored and transmitted electronically and may have associated rights of ownership and usage.[1] Examples include the digital representation of a physical or virtual asset, electronic stores of value, or software (either as a product or as a service).[2] Digital assets can be generated using different technologies, including blockchain or distributed ledger technology.[3]

2. What is a crypto-asset?

Crypto-assets are types of digital assets that rely on a combination of cryptography, peer-to-peer networks, and algorithms to process, verify, settle, and record transactions without relying on a trusted third-party for validation.

3. What is blockchain technology?

Blockchains are a decentralised ledger technology that enable transaction and settlement between two parties, typically without the involvement of a centralised intermediary. Blockchains are a composite of the following characteristics4:

1. **Database**: A blockchain is effectively a database, similar to an excel sheet that stores records. These records could be a ledger of transactions or other types of information such as the history of ownership of a particular good such as art.

2. **Distributed**: Instead of being centrally stored, data on blockchains is stored in multiple computers. This ensures redundancy of information i.e. all computers in the blockchain networks have the entire record of transactions so if one node crashes, all the data is not lost.

3. **Decentralization**: Decentralization plays a key role in ensuring that the records on all the computers in a blockchain network are the same. Rather than relying on a centralised intermediary to maintain the records, network participants vote on what can and cannot form part of the ledger. If more than 50 percent of them agree on a particular course of action, the ledger is updated across the network to reflect that consensus.[5]

4. **Cryptography**: In essence, cryptography is a fancy term of math-based computer security which protects systems from hacking and tampering. It also enables the creation of authenticable accounts and the creation of a chain of transactions that is verifiable and hard to falsify and maintains the integrity of information on the ledger.

4. What types of crypto-assets are there?

There are two broad types of crypto-assets.[6] There are native-crypto-assets such as Bitcoin and Ether which are native or essential to their own blockchain network. Native crypto-assets fuel transactions on blockchain networks. For instance, to create an application on the Ethereum blockchain, a user will have to pay a small fraction of Ether to cover the transaction costs.

NON-NATIVE CRYPTO-ASSETS DO NOT HAVE THEIR OWN NATIVE BLOCKCHAIN NETWORK. RATHER, THEY ARE USED AS STORES OF VALUE FOR PROJECTS THAT ARE BUILT ON TOP OF A BLOCKCHAIN.

Crypto-assets such as stable-coins and the digital art non-fungible token (NFT) created by the artist Beeple auctioned at Christie's for USD 63 million are known as non-native crypto-assets.[7] Non-native crypto-assets do not have their own native blockchain network. Rather, they are used as stores of value for projects that are built on top of a blockchain.

However, non-native crypto-assets can also have some native functionalities in networks that are built on top of blockchains. These are discussed in the answer to next question.

5. What is the relationship between blockchain technology and crypto-assets? Is it possible to separate them?

While native crypto-assets cannot be separated from their native blockchain networks, non-native crypto-assets generally can. Native crypto-assets are inseparable from the underlying technology. Very simply, these crypto-assets serve as the transaction recording mechanism for the blockchain. More importantly, without native crypto-assets there would not be any open blockchain networks.

While it is impossible to have an open blockchain network without a native crypto-asset, it is possible to have an open blockchain network without non-native crypto-assets. However, there are non-native crypto-assets that are essential to networks that are built on top of blockchains to help applications scale while still harnessing the benefits of the blockchain layer below. Polygon, one of India's most successful crypto-unicorns, is an example of such a solution.

6. What is the significance of open blockchain networks?

Open blockchain ecosystems with native crypto-assets breakdown barriers to access to innovation and opportunities for skill development on blockchain technology. Open blockchain networks are accessible to anyone with a computer and a broadband internet connection. Any student or developer located anywhere in India can purchase a fraction of a native crypto-asset such as Ether and start creating applications on the Ethereum blockchain. According to one report, there are 2,918 decentralised applications on the Ethereum blockchain.[8] These applications provide a variety of services related to gaming, finance, infrastructure, This thriving

ecosystem is an outcome of thousands of developers working on different projects on the Ethereum ecosystem.

IN JUST OVER A DECADE, OPEN-SOURCE BLOCKCHAINS HAVE ENGAGED MORE SOFTWARE ENGINEERS THAN SOME OF THE LARGEST TECHNOLOGY COMPANIES IN THE WORLD.

In just over a decade, open-source blockchains have engaged more software engineers than some of the largest technology companies in the world. According to a report by Electric Capital there are approximately 18,416 active monthly developers working on open source blockchain projects and 34,391 engaged in some kind of blockchain coding activity in 2021.[9] Conversely, Facebook employs 8,850 software developers and Google employs 18,593[10] software engineers for research and development globally software engineers for research and development globally, yet these companies are respectively 18 and 24. They create limited opportunities because they are closed ecosystems. Conversely, each of the 18,416 developers on open blockchain ecosystems could be working towards creating their own large technology company.[11]

In contrast to open blockchains, decentralised ledger technologies that do not have a native crypto-asset such the Linux Foundation's HyperLedger Fabric is a gated or closed ecosystem. While these ecosystems also have use-cases for large enterprises and institutions, they do not leverage the open source aspect of permissionless blockchains and therefore have limited scope for the democratisation of innovation and upskilling. Further, they are also subject to concentration and competition risks. For instance, a closed blockchain system creates a barrier of entry for an entrepreneur wishing to create a blockchain application, because it may require the latter to pay high fees for access to its network.

7. Have open blockchain networks been used by governments?

Governments have also been benefactors of blockchain ecosystems. Polygon, the scaling solution built for Ethereum, was used to help scale a project where the Maharashtra government sought to track Reverse transcription-polymerase chain reaction (RT-PCR) test results in people suspected of having COVID-19 infection.

The department of disaster management of the Maharashtra government collaborated with Print2Block – a Chennai-based crypto-start-up, for issuing COVID-19 test certificates using blockchain technology. These certificates are issued to those who were COVID negative. Subsequently, Print2Block partnered with Polygon to provide a secure and scalable solution for record-keeping of RT-PCR test records and issuing of COVID-19 test certificates.[12]

8. What is the difference between Central Bank Digital Currency (CBDC) and crypto-assets?

Crypto-assets may share some features of CBDCs such as the underlying technology, or as in the case of stable coins, may have similar values or intended use-cases. **But they are NOT the same thing.** A central bank digital currency is a liability on the central bank and is "denominated in an existing unit of account". Put more simply, a CBDC is fiat currency in digital form. It is issued by a central bank, which in India's case is the Reserve Bank of India. Crypto-assets on the other hand are not liabilities on the central bank.

C. DEFINING CRYPTO-ASSETS

1. Definition of Virtual Digital Assets in the 2022 Finance Bill

In 2022, the Indian Government introduced a tax scheme for crypto-assets which included a comprehensive definition for virtual digital assets (VDA)[13]:

- **Agnostic of form and the technological underpinning of a VDA**: The definition is agnostic of form as well as the technological underpinnings of VDAs. Illustratively, the definition provides that VDAs can be "any information, code, number, or token (that is not foreign or domestic fiat currency)" and generated through "cryptography or other means and provide a digital representation of value".

- **Covers VDA functionality**: It provides that VDA can have inherent value, operate as a unit of account (i.e. resemble money), and serve as a store of value (eg. commodity).

- **Includes all tokens including non-fungible tokens:** On this point, the definition includes a caveat that the Government will specify which NFTs qualify as VDAs through the Official Gazette, which raises some questions about the current tax status of income earned from the transfer of NFTs.

- **Empowers Government to notify any digital asset as a virtual digital asset**. The provision serves as an insurance policy against any digital asset that may fall through the crack of the VDA definition, and thus, beyond the ambit of the tax net.

- **Includes virtual digital assets that are exchanged without consideration**: It is likely this was introduced to bring VDAs that are transferred peer-to-peer under the purview of the tax scheme as well.

By introducing an inclusive definition for VDAs, India has avoided the missteps of several advanced nations whose efforts to regulate these technologies have been impeded by turf wars between regulators (e.g. United States) and the inadequacy of existing frameworks to account for different types of crypto-assets (e.g. United Kingdom).

D. CLASSIFYING CRYPTO-ASSETS

1. Different Approaches to Classification

Although the tax scheme implicitly distinguishes between non-fungible tokens and other virtual digital assets, it does not expressly create any taxonomy for them. However, a comprehensive taxonomy for crypto-assets may be introduced in the crypto bill slated to be introduced this year.

THE LENS THROUGH WHICH THE BEHOLDER CONSIDERS CRYPTO-ASSETS AND THEIR CLASSIFICATION IS CRUCIAL TO DETERMINING HOW THEY WILL BE CLASSIFIED

The basis for any taxonomic structure depends on the purpose that structure is meant to serve. Put another way, the lens through which the beholder considers crypto-assets and their classification is crucial to determining how they will be classified. Through such a prism, we have established that there is a narrow approach, a broad approach to crypto-asset classification, and a hybrid which combines elements of the narrow and broad approaches.

2. Narrow Approach to Classification

The narrow approach typically considers the underlying purpose of a crypto-asset as the basis of classification. Broadly, regulators use this lens to bring crypto-assets under the purview of existing regulation, in an effort to expedite the process of administration and governance. Several jurisdictions including the European Union, Singapore, have used this method to create a taxonomy of broadly five types of crypto-assets:

Table 1: Examples of International Approaches to Classifying Crypto-Assets

Type of Crypto-Asset	Asset-Backed	Utility	Rights-based	Payment	Prohibited
Definition	Crypto-assets that reference an underlying real-world asset such as a currency or precious metal or real-estate. [14]	Assets intended to provide access to a good or service such as a gaming or a rewards token.[15]	Grant entitlement to ownership, or the repayment of a specific sum of money, or entitlement to a share in future profits such as securities.	Can be used for transactions, exchange, assets or value storage.[16]	This classification or distinction is created for the purpose of prohibiting certain tokens.
Jurisdictional Distinction/ Examples	Switzerland has created a separate taxonomy for stable-coins.	Singapore, Switzerland, EU[17] In Japan, cryptocurrency and utility tokens such as BTC and ETH are regulated as crypto-assets under the Payment Services Act (PSA).[18]	United States, United Kingdom	The EU includes stable-coins in the definition electronic money which serves a similar purpose to payment tokens defined elsewhere such as in Singapore.	In Thailand, exchanges are prohibited from providing any services related to meme tokens, fan tokens, non-fungible tokens and digital tokens that are utilized in a blockchain transaction issued by them or other exchanges.[19] In the United Kingdom, crypto-asset derivatives are prohibited and the regulator has pressured exchanges to drop listings of anonymity-centric crypto-assets.

Source: Author's own table

There are several problems with the narrow approach to classification:

- **Legal ambiguity for assets that are not covered:** Illustratively, the European Union's Markets in Crypto-Assets Regulation does not cover non-fungible tokens which are an important component of crypto-asset markets. Such exclusion by omission creates legal uncertainty for issuers creators of these assets that are not covered and stymies efforts to effectively regulate them.

- **Impedes any global effort to regulate crypto-assets:** As the table above indicates, while there seems to be some consensus on nomenclature, the meaning of the terms varies from jurisdiction to jurisdiction. Such inconsistency would necessarily confound the adoption of any global framework on crypto-assets.

- **Hinders regulatory efficiency**: As a majority of the categories have conceptual moorings regulators are typically required to consider each crypto-asset on a case-by-case basis – a daunting task given that there are over 8,000 crypto-assets and counting. It also sets the foundation for regulatory turf wars. In the United States, where the Securities and Exchange Commission and the Commodities Futures Trading Commission are at an impasse because of a lack of clear boundaries in their purview over crypto-assets.

- **Hampers innovation**: Thailand's sweeping prohibition on non-fungible tokens and tokens that facilitate blockchain transactions will necessarily hamper the prospects of entities offering these assets as well as open-source development capabilities in the country.

3. Broad Approach to Classification

A broad approach to classification seeks to create a uniform taxonomy for existing as well as emergent crypto-assets to enable stakeholders to understand them and bring regulators and industry innovators on the same page. One example of an inclusive model is the Token Taxonomy Initiative (TTI).

The TTI is not a regulatory standard, rather it seeks to complement regulatory efforts in establishing a basis for classifying crypto-assets.[20] It is technologically agnostic which means it can be used to describe crypto-assets native to any distributed ledger technology or database. The TTI categorises crypto-assets as 'fungible', 'non-fungible' and 'hybrid'. Fungible crypto-assets are interchangeable units of information or data, that have the same value as each other, such as a stable-coin. Non-fungible crypto-assets are unique units of information that represent "unique assets", such as representing a piece of real estate or a Crypto Kitty. Hybrid crypto-assets, in turn, encompass a combination of some non-fungible and fungible elements.[21]

Crypto-assets are then further denoted in terms of "templates", "classes", "instances", and "behaviours". Templates indicate the technical specifications of tokens. A token class is the type of entitlement, service, or good represented by the token. Behaviour indicates the functionality of a crypto-asset. The instance, in turn, signifies the right or asset the crypto-asset denotes.[22]

While the TTI creates a common basis for understanding crypto-asset functionality, it is not particularly

amenable to regulation. It is overtly technical in some senses, despite the designers' intentions to present a simplified classification system, and it is unlikely to pay keen attention to attributes that are important from a regulatory perspective, such as certain financial aspects and security.

4. Hybrid Approach to Classification

The International Monetary Fund, has devised guidelines for crypto-asset classification that are somewhat instructive. Specifically, the IMF guidelines combine elements of the inclusive and the exclusive approach highlighted above.

It begins by categorizing crypto-assets into two broad categories of Bitcoin-like Crypto-assets (BLCAs) and digital tokens (anything other than BLCAs).[23] The Figure below details the process of classification used by the IMF. The term BLCAs is used to denote crypto-assets that are "designed to serve as a general-purpose medium of exchange for peer-to-peer payments with no issuer/counterpart liability".[24] Digital tokens, on the other, hand are defined as "transferable units generated within a distributed that tracks ownership of units through" decentralized ledger technology.

The IMF classifies digital tokens into four types[25]:

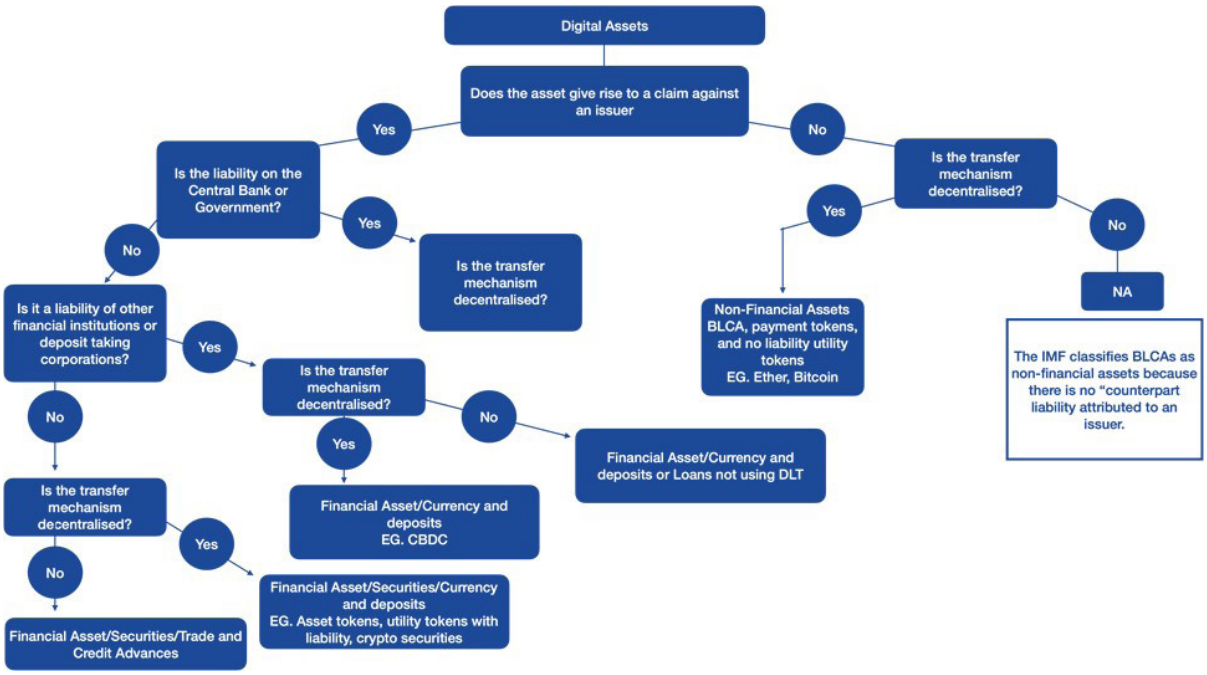
Payment Tokens: Designed to serve as BLCAs, meant for ubiquitous use

Utility Tokens: Intended to provide future holders access to services/ digital goods through a decentralized application.

Asset Tokens: Represent claims on the issuer. Generate an interest for the holder

Hybrid Tokens: Combination of utility and asset or payment token.

Figure 1: Understanding Crypto-Assets in the Context of Digital Assets



Source: Marcelo Dinenzon et al., 'Treatment of Crypto-Assets in Macroeconomic Statistics'

The distinction used by the IMF is similar to the broad distinction between native and non-native crypto-assets we drew out in the first section of the paper. The IMF notes that its classification must be evolved over time. In this sense, it is also imperfect. However, the Brazilian Central Bank has decided to adopt the IMF guidelines for crypto-asset classification for their regulatory purposes.[26]

E. CONSIDERATIONS FOR INDIA

1. Crypto-assets cannot be classified as Securities or Commodities[27]

India has a well-established capital markets ecosystem that deals with securities and commodities. However, the regulatory frameworks governing these asset classes would not cannot accommodate most crypto-assets. Most crypto-assets do not conform with the definition of 'securities' under the Securities Contract (Regulation) Act, 1956 (SCRA). Securities, for instance, are defined inclusively under the Securities Act. Moreover, courts have noted that the term security has an expansive ambit and encompasses any instrument that marketable, i.e., it has "an ease or facility of selling" and/or "a high degree of liquidity" and/or is "capable of being sold in a market". While courts determine that this quality is restricted to the shares of public limited companies, it may be extended to crypto-assets given their ease of transactability.

However, each of the instruments listed under the definition of security under the Securities Act entails a set of rights which not all crypto-assets cannot guarantee. Moreover, the definition of 'securities' includes that they must be issued by body corporates, which would preclude its applicability to most crypto-assets. Even if the issuers of different tokens were to incorporate themselves in India, crypto-assets such as Bitcoin, which are generated by virtue of mining and whose original issuer is unknown, would not qualify.

Definitionally speaking, crypto-assets can be classified as commodities. The term "commodity" has not been properly defined under any particular statute in India. The SCRA defines "good" as "every kind of movable property other than actionable claims, money and securities." For crypto to be regulated as a commodity under the SCRA, it must be possible to demonstrate that it is a "good". This is because the two main kinds of contracts that the SCRA regulates as commodities are ready delivery contracts (which are contracts for the delivery of goods immediately, or within 11 days) and commodity derivatives (which are contracts other than ready delivery contracts for the delivery of goods - for futures trading in commodities).

Under the SCRA, "goods" must be movable property. The definition is wide enough to cover both tangible and intangible forms of movable property, and crypto may come under the latter. The Supreme Court has observed that both tangible and intangible property could be goods, if they have attributes of (i) utility, (ii) capability of being bought and sold, and (iii) capable of being transmitted, transferred, delivered, stored and possessed. It observed that even a software fulfilling these attributes can be a "good". Since crypto-assets are essentially code that can be transferred over blockchain technology, it can be said to be intangible movable property – and thus fall under the definition of "good" under SCRA. In this way, crypto can be understood as a commodity.

However, the current foreign direct investment (FDI) norms for financial markets in India would make it difficult for exchanges to raise capital and may hurt innovation in the long run. Infrastructure companies in securities markets – i.e. stock and commodity exchanges, are subject to an FDI cap of 49 percent under the automatic route. If crypto-assets were classified as securities, a majority of crypto-start-ups would not be able to secure adequate capital from foreign investors.

2. Classifying Crypto-Assets to Enhance Regulability

The approaches taken by most countries to classify crypto-assets are attempts at melding crypto-asset characteristics with administrative efficiency. It is easier to bring crypto-assets and the businesses that deal with them under the jurisdiction of existing regulators and frameworks that already exist than it is to create a new institution and law. The consideration for expediency is particularly germane for crypto-asset markets as they are a rapidly evolving paradigm. There are, however, problems with this approach, both generally and in the context of India, which have been highlighted in the sections above.

With a view to classify crypto-assets in a way that enhances their regulability in India, regulators may consider treating stable coins and anonymity-centric crypto-assets as distinct from general crypto-assets. We draw this distinction because stable-coins and anonymity-centric crypto-assets have a wider set of legal and policy implications than other crypto-assets. Within the world of crypto-assets, the Government has chosen to distinguish between non-fungible tokens and other crypto-assets. This is a sensible distinction given the unique attributes of NFTs. If a taxonomy is devised for crypto-assets in the future, divides along the lines we have highlighted here would be sensible from the standpoint of enhancing the ability of regulators to oversee them effectively.

Stablecoins: Stablecoins were developed as a means of hedging against the volatility of crypto-assets. According to Berentsen and Schar (2019), there are three kinds of stable coins.[28] The first kind relies on an algorithm to make the token track the price of the underpinning asset. A good example of an algorithmic stable coin is Basis. Basis adjusts the supply of its tokens algorithmically. In times of increased demand, the blockchain creates more Basis tokens to bring the price down.[29] In times when there is a glut in supply, the blockchain buys back the Basis tokens to reduce the supply and effect a concomitant restoration in price.[30]

The second kind of stable coin holds its reserves or collateral in a crypto asset native to the blockchain network it is built on.[31] For instance, the DAI stable coin is generated when prospective users bank crypto-assets (generally Ethereum) as collateral with the issuers.[32] The collateral for each Dai asset is greater than the value of the asset-debt as the volatility of the underlying crypto-asset, i.e., ether, is significant.[33]

Third kind of stable coin is where the collateral is held offline i.e., in the form of physical monetary reserves. A popular example of such a stable coin is Tether which maintains physical reserves of USD.

Most stable coins are pegged to USD but there are also examples of stable coins pegged to other assets. For instance, the AABG crypto asset is gold-backed, with each token priced at the spot price of .1 grams of gold.[34] There are also stable coins that are pegged to the value of a basket of fiat currencies.

Stablecoins present different kinds of policy considerations from other crypto-assets. Table 2 below highlights some examples of the considerations raised by expert bodies on these assets and recommendations on how address them:

Table 2: Regulatory Recommendations on Stable-Coins by International Experts

Report	Risks	Recommendations
Gorton and Zhang[35] (Taming Wildcat Stablecoins)	1. Argue that stable coin issuers are essentially taking deposits (though some stable coins operate similarly to money market funds), cite run risks if market experiences volatility. 2.. Question stability of these assets as they are also prone to fluctuations.	1. Issue stablecoins through banks. 2. Require stable coins to be 100 percent collateralised by underlying asset. 3. Replace stable-coins with a central bank digital currency.
US Federal Reserve (Discussion Paper)[36]	1. Consumer protection, know-your-customer and anti-money laundering compliance, and the scalability and efficiency of settlements. 2. Highlight the risk of a "run" on certain stablecoins that are backed by non-cash-equivalent risky assets. 3. Replacement of physical cash (banknotes) with stablecoins could result in more credit intermediation	Broad adoption of asset-backed stablecoins supported within a two- tiered, fractional reserve banking system without a negative impact on credit intermediation. In such a framework, stablecoin reserves are held as commercial bank deposits, and commercial banks engage in fractional reserve lending and maturity transformation as they normally would with traditional bank deposits. Such a narrow banking framework, in which stablecoin issuers are required to back their stablecoins with central bank reserves, minimizes the risk of "runs" on stablecoins but can potentially reduce credit intermediation.
US President's Working Group on Financial Markets, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency (Report on Stablecoins)[37]	1. Confidence in a stablecoin may be undermined by factors including: (a) fluctuation or lack of liquidity in the reserve asset; (b) loss of reserve assets; (c) ambiguity regarding redemption rights; and (d) issues with cybersecurity and data protection and privacy. Could pose systemic run risk for users. 2 ."Payment stablecoins face many of the same basic risks as traditional payment systems, including credit risk, liquidity risk, operational risk, risks arising from improper or ineffective system governance, and settlement risk. 3. Scalability concern: Stablecoin issuer or custodian service provider that is able to scale could pose "system risk" i.e. any collapse in such an entity could have serious implications for "financial stability and the real economy"	1. Centralised supervision 2. Prudential regulation 3. Insurance 4. Controls on stable-coin volumes 5. Limit activities such as redemption and maintenance of reserve assets to "insured depository institutions". 6. Promote interoperability amongst stable-coins. 7. Require stable coin issuers as depository institutions to mitigate consumer protection and run risk. 8. Regulate wallet service providers and 9. "Provide the supervisor of a stablecoin issuer with authority to require any entity that performs activities critical to the functioning of the stablecoin arrangement to meet appropriate risk-management standards". 10. Require stablecoin issuers to comply with activities restrictions that limit affiliation with commercial entities. Supervisors also should have the authority to implement standards to promote interoperability among stablecoins.

Source: Author's Own Table

Anonymous Crypto-Assets: Certain crypto-assets seek to hide transactions on their blockchains to maintain user and transaction anonymity. Such crypto-assets present a higher level of risk than others as there are limited ways of tracing them. The European Union recently called for a ban on such crypto-assets and the UK Financial Conduct Authority has pressured exchanges operating within its jurisdiction to delist them.[38]

Public crypto-assets: Unlike Anonymous Crypto-assets (and to some extent cash) which are completely untraceable, public crypto-assets such as Bitcoin and Ethereum can be tracked as their entire transaction history is stored on the blockchain. As the ecosystem has matured, crypto forensics companies such as Chainalysis have found ways to deploy software to scrape transaction data and examine it for suspicious activity such as illegal accounts on the Dark Web and help law enforcement authorities track funds.[39] The issues with public crypto-assets can be addressed with regulation pertaining to AML/CTF, tax, foreign exchange management, and investor protection. Public crypto assets can be further subdivided into utility crypto-assets (which provide access to goods or services or blockchain functionalities), payment crypto-assets, and rights-based crypto-assets (which give rise to some kind of claim or right to the holder). This sub-division will accommodate the broad sub-types of crypto-assets that exist in the market.

Non-fungible tokens: Non-fungible tokens present an important commercial imperative, particularly for the cultural and creative products. Apart from provisions regarding AML/CTF, tax, foreign exchange management, and investor protection, regulators may also consider revisions to existing IP laws to ensure maximal commercialisation of these assets is possible, as well as clarity on rights embedded in such assets. Non-fungible tokens are distinct from other crypto-assets as they operate primarily as a new vehicle for dealing in novel/creative/unique intangible assets.

Table 3 below illustrates the threat level presented by the different crypto-assets highlighted above, in the event appropriate regulation is introduced.

Table 3: Threat Level of Different Types of Crypto-Assets If Regulation is Instituted

Policy Concern	Financial Stability	Trace-ability	AML/ CTF	FEMA	Tax Evasion	Run Risk	Con-sumer Protec-tion
	Threat Level if Regulation is Introduced						
Stable Coin. Eg. Tether	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Anony-mous Cryp-to Assets. Eg. Monero	🔴	🔴	🔴	🔴	🔴	🔴	🔴
Public Crypto Assets. Eg. Bitcoin, Ethereum	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Non-fungi-ble Tokens	🟢	🟢	🟢	🟢	🟢	🟢	🟢

Key

🟢 Low Threat

🔴 High Threat

Source: Author's Own Table

F. CONCLUSION

It is difficult to design a perfect methodology for classifying crypto-assets, given the rapidly evolving market landscape. However, it is clear that both crypto-assets that are native to open source blockchains such as Bitcoin and Ethereum as well as different token projects play an important role in innovation. In devising a classification standard for crypto-assets, regulators must be mindful of balancing their regulatory objectives with innovation.

Put another way, crypto-taxonomies should seek to serve multiple purposes including establishing easy understanding of a token, giving greater legal clarity to innovators, and enabling the right modality of regulation and regulability for crypto-assets. Regulators must remember that token projects and the open blockchain crypto-assets used to support them are inseparable and thus, must refrain from considering these constructs in isolation.

ENDNOTES

1 'Digital Assets Primer' (Commodity Futures Trading Commission, December 2020), https://www.cftc.gov/media/5476/DigitalAssetsPrimer/download.

2 'Digital Assets Primer' (Commodity Futures Trading Commission, December 2020).

3 'Digital Assets Primer' (Commodity Futures Trading Commission, December 2020).

4 Partially adapted from z_ai, 'Blockchain Explained', Geek Culture (blog), 12 August 2021, https://medium.com/geekculture/blockchain-explained-coda6436e8dd.

5 This consensus is enabled by the protocol. The protocol is computer code that encompasses a set of rules that determine elasticity of supply and align the interests of network participants to ensure they work to sustain the integrity of the network. The protocol is what makes all the different sub-components of blockchains work together. For example, the Bitcoin protocol includes a consensus algorithm that incentivises miners to use computing force to compete to upload transactions. If a miner successfully uploads a transaction, it receives Bitcoin (the native crypto asset) as a reward. The transaction is uploaded to the network so that all participants can verify it (through its hash value).

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