



GBBC Digital Finance
Code of Conduct
Taxonomy for
Cryptographic Assets

From the Perspective of
General Global Regulatory Standards

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The Case for a Taxonomy of Cryptoassets

In recent years the emergence of new network technologies has enabled the rapid proliferation of digital tokens that represent stores of value or sets of permissions in the physical, digital, and legal world. While the existence of digital tokens is not in and of itself new, the speed with which they are being deployed and the scope of value which these tokens represent is unprecedented.

The authors of this document believe the ability to rapidly deploy networks of tokens at low cost represents a massive opportunity for the financial services ecosystem and broader society, creating new asset classes, enabling new business models and improving the liquidity and transparency of both new and existing markets. However, the authors also recognize that absent a framework for mapping this growing variety of topics and an understanding of what constitutes best practice in the deployment and management of tokens, these networks can pose risks to their creators, holders, and the broader environment in which they operate.

A precondition to assessing these risks is a common understanding of the remarkable breadth of activities being explored via this new generation of tokens as well as a consistent language for describing these activities and debating their implications. As such, this document seeks to establish a consistent and reliable taxonomy of these new tokens, their life-cycle, and the market actors who engage with them. Using this taxonomy as a starting point, the document then outlines key risks for consideration and highlights the intersection of these risks with existing policy frameworks across several jurisdictions. In doing so the document endeavours to provide all market participants, in particular policy makers, with the tools necessary to consider the governance frameworks and codes of conduct that are best suited to mitigate the risks associated with a given token.

Defining Tokens and Cryptoassets

Cryptoassets and Distributed Ledger Technology (DLT) look to disrupt the industry by replacing intermediaries and create immutable records. Clearly defining what constitutes a token can be a surprisingly daunting task. The term is typically defined by dictionaries as “a thing serving as a visible or tangible representation of a fact, quality, feeling, etc.” or “a voucher that can be exchanged for goods or services, typically one given as a gift or forming part of a promotional offer”. While both definitions capture aspects of the terms specific use in this document, neither appropriately captures our intent. Instead this document defines token more narrowly as follows:

Tokens are legal instantiations of a share of an asset, a set of permissions, or a set of claims that are held by the bearer or bearers of said token. A token might take a physical form – such as a lottery ticket – or it might be a digital representation of a physical asset (e.g. fractional ownership of real estate or of luxury goods such cars or paintings), a set of permissions (e.g. the right for a one-off or perpetual discount for goods/services on an online platform) or a set of claims, (e.g. the electronic representation of a debt contract).

Digital tokens exist within a variety of network forms including the traditional “hub and spoke” architecture in which a central entity maintains token network activity; however, the primary interest of this document is the particular subset of digital tokens that exists within distributed or decentralised networks popularly referred to as “cryptoassets”.¹

Cryptoassets are of interest for their newness and their rapid proliferation. The technology underpinning the creation of most cryptoassets – blockchain technology – was popularized with the publication of the Bitcoin “Whitepaper” in 2008. Within less than a decade, the industry developed from virtually non-existent into a thriving ecosystem comprising more than 1600 cryptoassets², a total market capitalisation of approximately 300 billion USD³, and total funds raised from investors via the sale of cryptoassets of 20 billion USD⁴. An important advantage of cryptoassets over traditional tokens is the possibility to build specific, automatically-executed management and business logic directly into the decentralised token infrastructure via “smart contracts”. A popular example would be a cryptoassets which is automatically sent out to a buyer who has paid its sales price denominated in another cryptoassets. A more innovative example would be an automatically distributed insurance token pay-out once a specific event has happened (such as a delayed flight).

¹ We do not use the label “virtual currency,” because the term “currency” suggests that these assets are recognised as general legal tender, which at this time is generally not the case.

² <https://www.cryptocompare.com/coins/list/>

³ <https://www.cryptocompare.com/>

⁴ <https://www.coinschedule.com/stats.html>

The Opportunity of Cryptoassets

The characteristics of cryptoassets place them in a position to offer significant benefits to society. While far from an exhaustive account of their potential benefits, three characteristics stand out.

- 1. They can increase transparency:** The technical underpinnings of cryptoassets enable the deployment of marketplaces for the exchange tokens that are significantly more transparent than existing financial systems. As such, there is the opportunity for significant reductions in the prevalence of fraud, money laundering, terrorist financing and other undesirable or illegal activities within both newly created cryptoassets and existing physical/digital tokens migrated to a cryptoassets form.
- 2. They can be deployed and operated simply and at low cost:** Cryptoassets have the potential to significantly increase the operational efficiency of developing and operating token networks and associated marketplaces for those tokens. This lowers the barriers to creating efficient marketplaces for products that are not currently tokenised [e.g. asset classes such as real estate, wine, and diamonds] facilitating increased liquidity, and lower costs price discovery, and less fragmented markets for these products.
- 3. They enable experimentation:** Recent deployments of cryptoassets have sought to establish new business models predicated on previously unimagined categories of tokens such as P2P markets for electricity or decentralised computing, in which consumers can rent-out their unused computing resources securely to other internet users, and get paid automatically and transparently via cryptoassets.

The Risks of Cryptoassets

As with any new ecosystem, cryptoassets introduce new risks to be managed. These risks are multi-dimensional in nature and are faced by both investors and issuers. Illegal and unethical activity may cause reputation risk for issuers, regulators, and financial service providers as evidenced by well-known cases in recent modern history. Lack of consistent tax treatment of cryptoassets across the globe may introduce unwanted risk for both investors and issuers. Furthermore, as the technology and operational protocols enabling the issuances of cryptoassets are relatively new, broader risks related to the governance protocols of token issuance and the underlying technologies enabling those issuances must also be taken into consideration.

Developing strategies for the mitigation and management of these risks will be central to unlocking the full potential of cryptoassets and will be important to achieving a greater degree of acceptance by and alignment with international regulatory authorities. While a wide array of these actors has expressed optimism about the potential of cryptoassets, including the G20 as well as nation-level regulatory bodies in France, Lichtenstein, Malta, Gibraltar, Singapore and others, the associated risks of cryptoassets markets were also clearly articulated in their assessments.

Cryptographic Asset Taxonomy from the Perspective of General Global Regulatory Standards

The purpose of this proposed taxonomy is to provide a common set of labels for crypto-tokens (herein referred to as “cryptoassets” or “tokens” as appropriate). Our intention is that these labels will help to better position cryptoassets within general global regulatory frameworks more consistently.

Our taxonomy contains the following three top-level label categories, which are not necessarily mutually exclusive:

- 1. Payment Tokens:** Tokens whose intrinsic features are designed to serve as a general purpose store of value, medium of exchange, and/or unit of account.
- 2. Financial Asset Tokens:** Tokens whose intrinsic features are designed to serve as or represent financial assets such as financial instruments and “securities”.
- 3. Consumer Tokens:** Tokens that are inherently consumptive in nature, because their intrinsic features are designed to serve as, or provide access to, a particular set of goods, services or content.

These categories are designed in reference to a token’s “intrinsic” features – i.e. the actual functions that are coded into the tokens and the networks and platforms on which they operate. However, price volatility, transaction cost acceptance, tax treatment, cybersecurity are among the hurdles faced by these and payment tokens achieving more widespread acceptance as a store of value or medium of exchange.

It is important to consider the activity or usage can differ from the native intention of a given cryptoasset (for example the Bitcoin whitepaper was titled “A Peer to Peer Electronic Cash System” but can be observed to have many uses or activities. In addition, these categories are high level descriptions, in future work GDF will build a “bottom up” taxonomy to further build on these labels.

In the sections that follow, we explain each of these categories in more detail, including discussions and examples of important intrinsic and extrinsic features. We also conclude with a special spotlight on how these taxonomy categories and their intrinsic and extrinsic features relate to global securities laws.

Token Taxonomy: Intrinsic & Extrinsic Features

Payment Tokens



Payment Tokens are cryptoassets that have intrinsic features designed to serve as a general purpose store of value or medium of exchange. By “general purpose,” we mean that these tokens are intended to serve as a medium of exchange for generally any goods, services, or assets, and thus are similar to more traditional currencies in that respect.

Such general-purpose Payment Tokens could be created and distributed by any number of organisations or methods, including:

1. Central banks or other government departments
2. Commercial banks
3. Companies issuing something akin to card-based payment instruments (e.g. Apple Pay)
4. New models and distributions - e.g. a decentralised network creates, distributes and operates a crypto payment token, as was the case with Bitcoin.

These tokens may be the native token of a particular blockchain protocol, in which case they may be issued as part of the set-up of that protocol or as rewards to “miners” who help operate the protocol.

Examples of payment tokens include: Bitcoin, Bitcoin Cash and Zcash. These three tokens are being used today as a store of value and medium of exchange, as they have an aggregate market capitalisation of approximately \$120,000,000,000 USD.⁵ However, price volatility, transaction costs, and merchant acceptance are among the hurdles faced by these and other payment tokens achieving more widespread acceptance as a store of value or medium of exchange.

Financial Asset Tokens



These cryptoassets have intrinsic features that are designed to represent assets typically of an underlying financial type, such as participations in companies or earnings streams, or an entitlement to dividends or interest payments. In terms of their economic function, these tokens are analogous to equities, bonds or derivatives (listed market instruments). In addition, so called alternative assets (e.g. Real Estate, Private Equity, Art etc.) are increasingly being discussed as good candidates for being Financial Asset Tokens due to the increased process efficiency that could be brought to private placements and the ability to access global liquidity pools.

Although variations may exist, a typical Asset Token would be issued by a business or entity in order to raise capital.

Examples of Financial Asset Tokens include but are not limited to tokens that

represent:

- Common stock in a company
- A right to receive a certain percentage of operating revenues
- A corporate bond
- Fractional or full ownership of real estate or private equity assets

There exists a growing, widespread belief that the ability to represent these traditional financial assets on blockchains in tokenised form could have a profound impact on global capital markets. This could lead to capital markets that are more liquid and transparent, and where regulatory compliance is actually built into the code so that transactions cannot execute unless compliance is present.

Today, there are fewer public examples of Financial Asset Tokens than other types of tokens, in part because the industry is working to bridge the gap between this new technology and the laws and regulations that govern the creation, offering, custody, and transfer of traditional financial assets. However, as these issues are solved, we anticipate the number of Financial Asset Tokens to increase significantly.

Consumer Tokens



Consumer Tokens are cryptoassets with intrinsic features that are inherently consumptive in nature, meaning they are designed to be used or consumed in some way, such as providing access to a limited set of goods, services, or content.⁶ In essence, consumer tokens can serve as or power next-generation consumer goods, services, and platforms.

Next-generation platforms powered by Consumer Tokens have the potential to allow online consumers to coordinate and create value in fundamentally new ways that are more fair, secure, and evenly distributed, because, unlike prior technologies, blockchain technology makes it possible to carry out such coordination without granting market power to any particular actor such as the current large technology companies.⁷ Online platforms powered by users

who own, control, and receive value for their own data and activity could profoundly improve some of today’s privacy and inequality problems.

⁵ <https://www.cryptocompare.com/> (12 October 2018)

⁶ Note that the term “consumer” here refers to the consumptive nature of the relevant goods, services, or content, which businesses as well as individual users may ultimately use or consume.

⁷ Christian Catalini and Joshua S. Gans, “Some Simple Economics of the Blockchain,” MIT Sloan Research Paper No. 519116, September 21, 2017, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2874598 (last visited 6 June 2018).

Like other tokens, consumer tokens have extrinsic features. Through 2016 and 2017 tokens had been “pre-sold” and sold prior to the completion of the platform that the token would be consumed within. In addition, these tokens once sold have in some instances become tradeable in open marketplaces. This activity has created an overlap with various regulated activities (such as securities issuance). The challenge is that some tokens have demonstrated some consumptive behaviour whilst others have not. Typically, there is a time lag between the liquidity event (i.e. token sale) and the token reaching a point at which it is consumptive.

The most well-known example of a Consumer Token is probably Ether, which was marketed, sold, and serves as “fuel” for the Ethereum blockchain. The Ethereum blockchain functions like a “shared world computer” by allowing any application or business logic to live and run on the blockchain in segments of code called “smart contracts.” Ether is needed to pay for transactions and computation and is also provided to miners as a reward for securing and validating transactions. Thus, under our taxonomy, Ether has characteristics of a coupon, license, and reward. Ether is widely used for these purposes today.⁸

In addition to “Eth” an argument can be made for other platforms such as NEO, Ethereum Classic (ETC) and Steemit.

Whilst “Ether” clearly demonstrates consumptive behaviour or activities, it can also be used as a payment instrument or be used to model financial agreements. This complexity is viewed differently by global authorities. To manage this geographical diversity of approach and to bring increased industry clarity Global Digital Finance has produced the “Cryptoasset Code of Conduct”.

In practice, once a platform is available, Consumer Tokens represent a wide spectrum of use cases, ranging from enabling the creation and consumption of content on a specific platform, or as a means of blockchain to blockchain communication.

Most current consumer tokens involve one or more of the following types of intrinsic features:

- **Consumer Ownership Rights:** Tokens can themselves be a natively digital consumer good, such as a tokenised collectible like a badge for online gameplay or a unique digital collectible that does not exist in the physical world, such as a virtual pet; or they can represent ownership of an analog (i.e. not digital or on the blockchain) good, such as a traditional baseball card. In both cases, the token can confer ownership in the corresponding good and/or represent the good.
- **Consumer Coupon Rights:** Tokens that provide a partial or complete discount on particular goods, services, or content, in the physical world or in the virtual world, e.g. file storage on a given token-powered network or electricity provided to retail customers.

⁸ The State of the Ethereum Network, ConsenSys Media, <https://media.consensys.net/the-state-of-the-ethereum-network-949332cb6895> (last visited 6 June 2018).

- **Consumer Activity Rights:** Tokens that involve rights or obligations related to an individual user’s activities on a token-powered network. With regard to consumer activity rights, we contemplate at least two current subcategories:
 - **Reward:** Tokens that serve as a form of reward or payment for performed activities. In the cases of online platforms, the tokens earned can also be used to access features or get benefits on the platform. In the case of physical systems, the tokens may act like “frequent flyer miles” to be redeemed for services or goods.
 - **License:** Tokens that serve as a means to access or perform certain activities related to an online service. Analogies in the analog world may include a software license, taxi medallions for New York City taxis, or occupational licensing and certifications for certain vocations. In the virtual world, this could include a token which allows access to a content-driven website. License rights may also include relationships similar to those we are all familiar with, such as a membership to a wholesale club, or the right to participate in a book club of the month.

The term “utility token” has also been used to describe what this document calls “consumer tokens.” The GDF community selected the term “consumer” instead of “utility,” because it properly emphasises that for a Consumer Token to become successful, it needs adoption by actual consumers who will use and consume the token. We recognise that this implies the need for potential consumer protections. Whilst many of these tokens are still early as are the platforms that support them, the Global Digital Finance community aims to strike the right balance of enabling innovation whilst being committed to efficient, fair and transparent market activity (where reasonably applicable).

Issue Spotlight: Tokens and Securities Laws

One area of regulation and policy that has received significant attention recently is whether and when existing regimes for securities and investment products should apply to cryptoassets. This is a complex topic that varies by jurisdiction and often depends on the unique facts and circumstances of specific cases. As a result, a brief overview of some of the important considerations are described.

In general, existing regulatory regimes typically apply to Financial Asset Tokens based on the underlying nature of the particular token. For example, if a Financial Asset Token represents a share of common equity in a company, then existing laws related to selling and transferring equity in a company likely would apply to the token. While that general proposition is not controversial, we anticipate increasing discussion will turn to whether and how existing regimes could be adapted to account for, and leverage some of the unique benefits of having natively digital financial instruments exist and trade on an open, transparent and auditable blockchain.

The issue is more complicated with respect to Payment and Consumer Tokens. In some jurisdictions, existing securities and investment product laws likely do not apply to tokens whose intrinsic characteristics are entirely consumptive in nature and do not include any characteristics unique to financial products (e.g. representing equity in a company). For example, the Monetary Authority of Singapore has indicated that consumer tokens that only provide access to an online platform are not securities.⁹

However, in at least some jurisdictions, extrinsic factors could cause a consumer or payment token to qualify as a security or investment product. In the United States, the Securities and Exchange Commission (“U.S. SEC”) has indicated that marketing and sales practices, as well as other factors surrounding the sale and distribution of tokens, could cause the U.S. SEC to classify otherwise non-financial tokens as “securities” under U.S. federal securities laws. For example, where a consumer token is sold to raise capital to build a new venture and marketed as an opportunity to make 90% financial returns, the U.S. SEC is likely to view that as a sale of securities.¹⁰

At least one jurisdiction, the State of Wyoming in the United States, has enacted a legislative “safe harbor” to clarify the interplay between that state’s securities laws and a token’s intrinsic and extrinsic factors. Under that legislation, a consumer token does not qualify as a security under Wyoming law if:

1. The developer or seller did not market the token as a financial investment; and
2. At least one (1) of the following is true:

⁹ A Guide to Digital Token Offerings, Monetary Authority of Singapore, Case Study 1, p. 8, <http://www.mas.gov.sg/~media/MAS/Regulations%20and%20Financial%20Stability/Regulations%20Guidance%20and%20Licensing/Securities%20Futures%20and%20Fund%20Management/Regulations%20Guidance%20and%20Licensing/Guidelines/A%20Guide%20to%20Digital%20Token%20Offerings%202014%20Nov%202017.pdf> (last visited 8 June 2018).

¹⁰ See, e.g. <https://www.sec.gov/litigation/admin/2017/33-10445.pdf>

- a. The developer or seller of the token reasonably believed that it sold the token to the initial buyer for a consumptive purpose;
- b. The token has a consumptive purpose that is available at the time of sale and can be used at or near the time of sale for use for a consumptive purpose;
- c. If the token does not have a consumptive purpose available at the time of sale, the initial buyer of the token is prevented from reselling the token until the token is available for use for a consumptive purpose; or
- d. The developer or seller takes other reasonable precautions to prevent buyers from purchasing the token as a financial investment.¹¹

While there remains significant uncertainty around these issues globally, we anticipate jurisdictions will continue to examine and clarify whether, when and how securities and investment product laws apply to tokens.

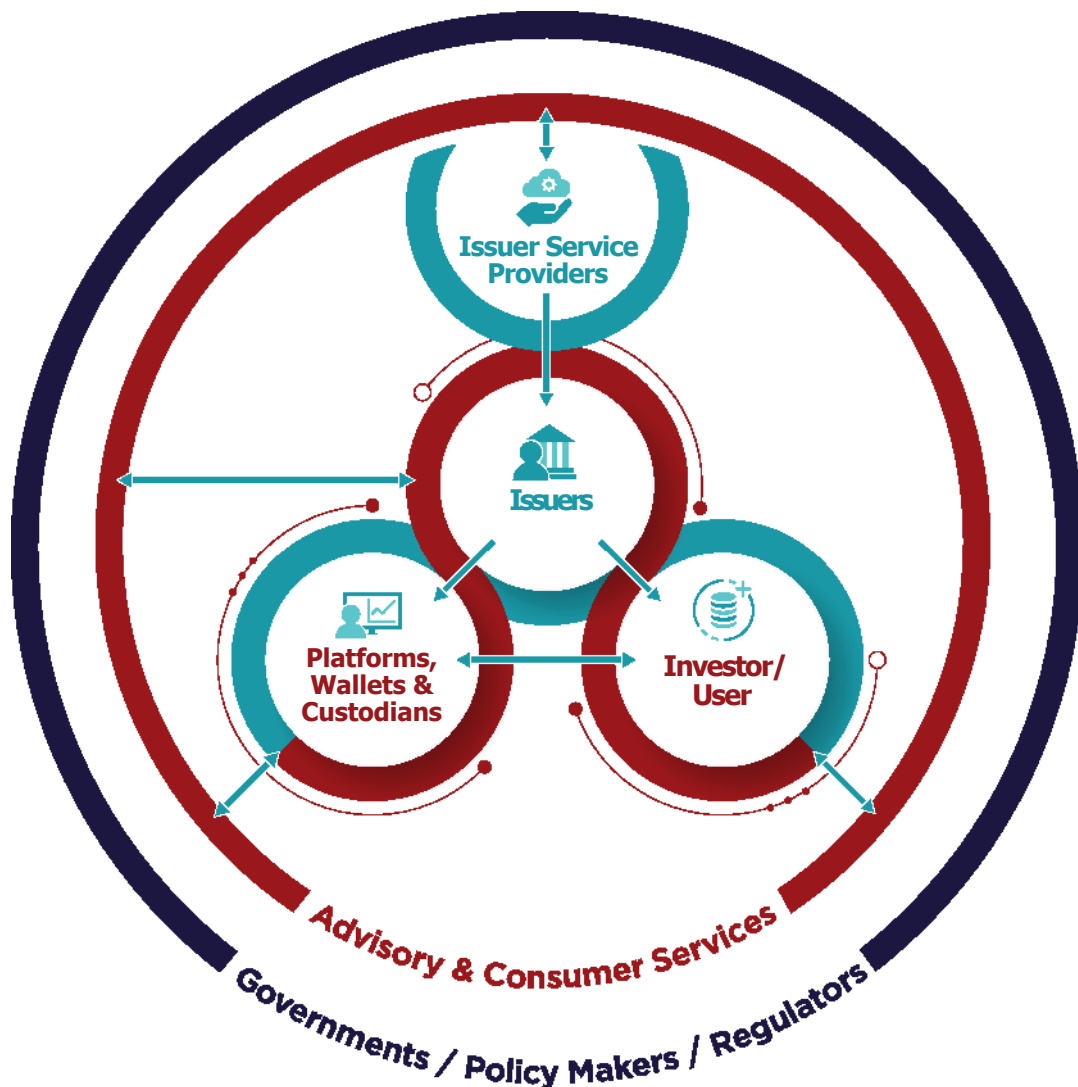
¹¹ <http://www.wyoleg.gov/2018/Enroll/HB0070.pdf>

Cryptoassets: Industry Participants

The ecosystem of actors in token markets is constantly evolving but its core elements can be loosely grouped as follows:

1. Issuers
2. Issuer Service Providers
3. Platforms, Wallets & Custodians
4. Investor/User
5. Consumer Services
6. Advisory
7. Policy Makers and Regulators

Note: While not directly involved in the cryptoasset sector now, we acknowledge that existing financial industry actors, such as investment banks - which provide a multitude of services to firms, remain key stakeholders and are observers rather than actors at the time of writing.



Issuers



Issuers are people, organisations, or institutions that issue tokens for the use and consumption of goods and services. This function is similar to the way governments issue notes or ‘fiat’ currency today. Issuers consist of project contributors, non-bank financial institutions (pension funds), governments, and banks.

Project contributors, corporate organisations and non-bank financial institutions typically issue tokens by means of an Initial Coin Offering. Through this process, issuers raise capital via fiat currency in return for tokens.

Financial institutions such as central banks and commercial banks might issue tokens as a means of settlement or as a representation of currency pegged to an existing government note or underlying asset. Commercial banks may issue a token as a national digital currency designed to be used as an alternative to cash to reduce transaction costs associated with a cash dependent society. Central banks may issue state sponsored tokens (i.e. stablecoins) stabilised by existing, underlying assets.

Issuer Service Providers



Issuer service providers are market actors that facilitate, process or provide infrastructure or service for the issuer of a token. Cryptocurrencies and tokens are unique from fiat currency in that their supply is generated by a set of rules including a consensus algorithm. Mining is the process by which transactions are verified and added to the distributed ledger, also known as the blockchain. Miners or validators, support this process by providing computing resources to process, validate, and maintain a copy of the distributed ledger. Miners are rewarded for providing this service according to rules and consensus protocol of that blockchain. In public implementations, anyone with access to the Internet and suitable computing hardware can participate in mining. In a permissioned blockchain implementation, one must be a part of a business network to validate transactions. Miners can be individuals or corporations (such as Bitfury, MinerGate, etc.).

Mining pools are groups of miners coming together to share resources, specifically computing, in order to achieve economies of scale and share in the reward for their combined computing power. Examples of mining pools include AntPool, ViaBTC and many others.

Other actors play a role in providing services to Issuers and these include token issuance advisory professionals who can provide expertise in cryptography, economics, token design, technical architecture, marketing, etc. in support of an issuer’s project.

Platforms, Wallets & Custodians



Trading Platforms

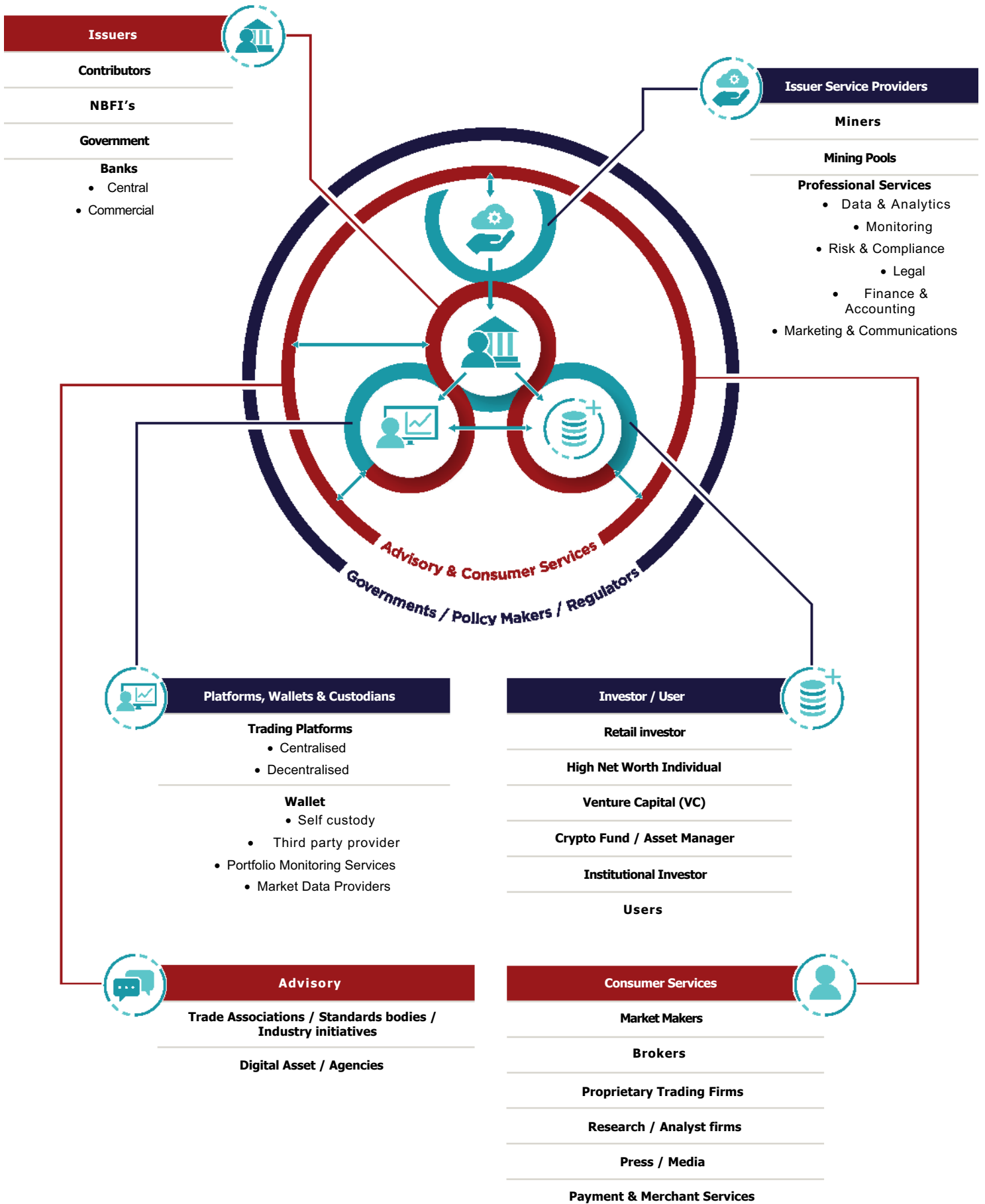
Trading platform (commonly referred to as an “Exchange”) is the term within this paper used to describe any venue which facilitates the exchange of tokens for any form of money or asset. Trading platforms provide services to buy and sell tokens and/ or for exchange of national (fiat) currencies backed by central banks. While some have referred to them as trading venues (see the SEC DAO ruling)¹, the majority of trading platforms facilitate the trade of cryptoassets as a means of exchange rather than the trade of financial instruments – as is common in regulated trading venues. Therefore, trading platforms herein refer to institutions which facilitate token trading which are not regulated securities.

Trading platforms provide an essential service in the growing digital asset market by providing liquidity and the ability to trade which forms an integral part of price discovery. Most trading platforms sell cryptoassets and payment tokens, commonly referred to as “cryptocurrencies”.

There are two types of trading platforms today, centralised and decentralised. Centralised platforms (i.e. Coinbase or Binance) facilitate the buying and selling of token orders through their platforms by providing a trusted service to end users. Centralised platforms can also be extended to OTC markets which keep their own centralised stock. Decentralised trading platforms or (DEX’s) offer peer to peer trading platforms which enable the direct purchase and sale of tokens between market participants outside of an exchange. Decentralised platforms create highly sophisticated and

¹ SEC, Report of investigation Pursuant to Section 21 (a) of the Securities Exchange Act of 1934: The DAO, July 2017

“trustless” environments by using smart contracts for peer to peer trading. Examples of decentralised platforms include Ether Delta and 0x.



Wallets

Platforms also exist in the form of wallets for asset custody. Asset custody refers to the means in which cryptoassets are stored. Cryptoassets can be stored in custody of the cryptoasset owner or a third party. Software or hardware services are used to securely store, send, and receive tokens through the management of private and public cryptographic keys. Depending on the provider, other services they may also include balance checks, fee estimates and transaction confirmation times. The two most common types of asset custody are web-based asset storage and hardware wallet cold storage.

Web-based asset storage can be in the form of a self-hosted wallet that stores tokens and is accessible through web-interfaces, or through a trading platform where the individual purchases the right to claim “X” amount of a digital asset. Hardware wallet cold storage is found in USB sized wallets that are stored offline and require a biometric identifier to unlock.

Web-based asset storage may be more accessible but is subject to risks, such as being prone to hacking. Cold storage may be less accessible but may provide more security.

Investor/User



An investor and user of a token can be one and the same for if one has invested in a token one can, in principle, also use it and if one possesses a token for consumption one can also decide to keep it as an investment and not use it. For this reason, we have grouped these two actors together in the same category for they can be indistinguishable in terms of ownership of tokens; however, their differing characteristics reside in how they use tokens.

An investor acquires a token with the intent to hold or trade it for a positive return. A common term for holding onto a token as an investment is “hodling” which originates from a misspelling in the online community of “holding”. Investors employing this strategy are referred to as “hodlers”. An active trading strategy results in fees, reducing profits. With a long-term investment strategy the investor selects assets to invest in and waits. Other investors own tokens in the short-term to trade it for fiat or other cryptocurrencies at a higher value than originally purchased. Additionally, there are broadly five types of investors in this space:

Retail

As in the traditional financial system, a retail investor¹³ is a non-professional investor trading and purchasing tokens as a hobby or at amounts that are much smaller than professional investors and institutions.

High Net Worth

“High Net Worth” may have different definitions in different jurisdictions, but classification is generally based on a minimum asset/net worth test. Resources can come from accredited or registered investors or from individuals who invested early in the cryptocurrency space and have thus accumulated significant positive returns to invest large amounts. High net worth investors originating in the cryptocurrency space may be colloquially referred to as “whales” or “crypto rich”.

Venture Capital (VC)

VC companies generally invest in early-stage companies/start-ups. They may invest in a token for short-term returns or long-term belief in the issuer company potential.

Crypto Fund or Asset Manager

An investment fund or asset manager with an exclusive focus on digital assets or blockchain based investments.

¹³ <https://www.investopedia.com/terms/r/retailinvestor.asp>

Institutional Investors

Includes banks, insurance companies, pension funds and hedge funds.

User

As touched upon earlier, a user and an investor can often be one and the same. In the current state of the token market this is the case, however it is possible that in the future, participation in an ecosystem and use of a token may not require or necessitate ownership of the underlying asset. The user would simply use the token in exchange for goods or services in the ecosystem.

Consumer Services



Consumer services consist of individuals and organisations that make up the infrastructure and facilitate the sustainability of cryptoassets. Consumer services consist of market makers, brokers, payment and merchant services, research and analysis firms and news/media outlets.

Market Makers

Market makers provide liquidity for principal trades by buying and selling cryptoassets. Market makers may consist of brokers and trading platforms.

Brokers

Brokers act as an agent for an investor wishing to buy cryptoassets and charge a fee or commission for executing buy and sell orders submitted by an investor. Brokers facilitate large transactions at great volume, without moving the market, by selling or buying at volume at a spot rate/fixed price.

Proprietary Trading Firms

Proprietary trading firms (typically hedge funds), use professional traders, proprietary technology, and robust risk management systems to manage their own inventory and continuously provide liquidity on token trading platforms.

Payments & Merchant Services

Payment and merchant services act as gateways between business, traditional financial services and token systems. These exist as traditional payment rails, wallet hybrids, and POS (point of sale) hardware manufacturers.

Traditional payment rails exist in intra-institutional systems for international payments and transfers. These are used as gateways between traditional finance and token systems:

- Bank transfers
- P2P money transfer services
- B2B payments
- Digital banking alternatives providing buy, hold and exchange services

Wallet hybrids use traditional payment rails and infrastructure (cards and apps) to bridge the fiat to token gap to facilitate token exchange and withdrawal.

POS hardware manufacturers enable payment transactions at point of sale (e.g. ATM's).

Research & Analysis Firms

Research and analysis firms seek to provide reliable and transparent insights in the form of unbiased, data driven opinions into the cryptoasset marketplace.

Press & Media

Communication channels through which news, entertainment, education, data, or promotional messages are disseminated. Media includes broadcast mediums such as newspapers, magazines, TV, radio, social media, etc.

Advisory



Advisory consists of organisations aimed at aiding in the regulation and upkeep of the cryptoasset market. Advisory consists of trade associations/standards bodies/industry initiatives, and digital assets ratings agencies.

Trade Associations / Standards bodies / Industry initiatives

Several self-regulatory standards organisations – of which this paper is a part – are in the early stages of formation to provide market participants with information to improve market efficiency, and capital allocation in the token markets. This includes efforts to create public registers and common reporting methods such as Form IGF-1.¹⁴ (More details in the risks section) Examples include:

- Mesari
- Crypto Valley
- Crypto UK
- The Brooklyn Project
- Virtual Commodity Association (VCA)
- Japan Virtual Currency Exchange Association
- The Hong Kong Fintech Association

Digital Asset Rating Websites / Agencies

Digital asset rating agencies are platforms designed to rate and judge token sales.¹⁵ These almost function like traditional rating agencies. They provide a useful source of centralised information to inform price discovery, in a market, which can be highly fragmented, and some basic analysis (i.e. looking at competitors) of the token and the project's propensity for success. Some also host extensive data reporting on token activity – prominent examples include Coinschedule and [ICOData.io](https://icodata.io).

Government / Policy Makers / Regulators



Since tokens are digitally native assets, their global nature generally allows for investors, users, companies, institutions from anywhere in the world to participate. Policy makers and regulators from many jurisdictions are evaluating, assessing, advising, and legislating activity surrounding tokens. Regulators include various entities at the multinational, national, and state-level governments such as the Securities and Exchange Commission (SEC) in the United States, Financial Service Agency (FSA) in Japan, Monetary Authority of Singapore, European Banking Authority, and many others.

¹⁴ The ICO Governance Foundation, IGF-Messari Commitments, November 2017

¹⁵ [ICOData.io](https://icodata.io), checked on January 2018

Jurisdictional Challenges, Risks and Issues

Risks¹⁶

Generally, the token markets are nascent and are made up of a number of communities who have different goals and motives. We set out below the key risks that exist within the markets we have observed to date, recognising these may change in time, [and we also identify a number of initiatives globally attempting to address some of these challenges].¹⁷

1. Risks to investors

Lack of standardisation

Comparison between different token offerings¹⁸ is often difficult due to the fragmented way in which whitepapers and any other documentation relevant to the token offering is structured. This can slow down or confuse price discovery mechanisms.

This can be particularly acute with respect to the details (or lack thereof) available regarding the ownership structure of tokens, especially where tokens are retained by the project owners. Due to the opacity of information surrounding token offerings, it can be difficult for investors to establish the proportion of tokens that are owned by the development team and what proportion will be sold to the public in a token offering.

Additionally, without a standardised process to outline potential conflicts of interest or other competing influences, it can be difficult for investors to establish whether token offering issuers have disclosed all relevant information.

Further, a broader range of governance structures – for example, charitable foundations – has been employed by token-financed projects than those which are used by traditional companies. This has created an extra degree of complexity for investors who are looking to evaluate the potential benefits and risk of a particular token offering.

Certain investors may not be sufficiently sophisticated to assess the risks involved

Generally, there are very few controls on the sophistication levels required to invest in tokens, meaning it is possible that many investors may not fully understand both the economics behind the token they purchase and the technology which underpins it. An inadequate assessment of the risks involved in a token investment may lead to substantial losses for investors.

Investors in traditional assets and securities may not be accustomed to the level of volatility cryptoassets exhibit and during extremely volatile periods, orders may not be filled in a timely manner or at desired levels. Additionally, investments linked to cryptoassets may fail to accurately track the underlying assets upon which they are derived, with significantly imperfect correlations.

Consumer protection laws and guidelines need to be clarified for crypto market

For example, if tokens are digital consumer goods, consumer protections will need to be in place.

Control and transparency concerning use of funds

Within the whitepapers associated with a token offering (or other accompanying documentation) there is often no obligation on token issuers to deliver what has been promised to investors. As such, funds raised in token offerings may end up being used for a multitude of different purposes. Courts generally look to “substance” over “form” and certain arrangements may be recharacterised to reflect the parties’ real intentions, and one would expect that in many jurisdictions courts would be keen to imply some obligation (for example, fiduciary or trust obligations) on the issuer to use the funds raised in a certain way unless there are clear terms to the contrary (for example, to the effect that the

¹⁶ Please note that the risks we have identified are not, nor are they intended to be, exhaustive of all potential risks that may arise in the context of token offerings and this is not, nor is it intended to be, legal advice. Any person involved in a token offering should seek separate legal advice and assess the risks of the relevant token offering independently, with their relevant advisors if appropriate.

¹⁷ [Note to Working Group: It would be useful if other GDF Working Group participants could help to provide some detail around some of these initiatives.]

¹⁸ [Note to Working Group: terminology (i.e. “token offering” vs “token sale” vs “ICO”) to be confirmed once taxonomy draft is more final]

arrangement is a gift or donation). However, in such cases it will not always be clear what an investor's rights may be, and this adds further complexity for investors.

Inflated promises of returns on investment

As the token market has become significantly more competitive over the past twelve months, those holding a token offering have had to, and are having to, employ significantly more aggressive marketing techniques in order to obtain investment. This can lead to token issuers heavily overstating the potential return from the token and straying into promoting their token as a regulated investment product (for example, – see the SEC administrative order in *SEC vs. Munchee Inc.*).¹⁹

Further, this increased competition has made issuers more reliant than on public relations and celebrity endorsements. This can detract focus from development and may lead to the presentation of misleading information.

Inherent and potential conflicts of interest in cryptoasset news sources

Media coverage within popular cryptoasset publications sometimes blur the line between news and research. This may create risk for readers who confuse these articles with reports, written by regulated entities about regulated products.

While certain news sites now include disclaimers that disclose author ownership of cryptoassets as well as the parent-owners of the site, not all do. Readers should be aware of the source and content of these materials – particularly when basing investment decisions on them – if such disclaimers are not made. However, sites that disclose certain conflicts may not fully disclose those related to the site's ownership structure and other business affiliations.

2. Risks relating to issuers

KYC and AML

Depending on the structure of the token offering and whether fiat funds are accepted alongside tokens, there are significant challenges for “Know-Your-Customer” (“KYC”) and Anti-Money Laundering (“AML”) regulations as they are broadly applied across the globe. Issuers may be required to carry out KYC/AML checks in some or all relevant jurisdictions and it is unclear whether all issuers have the capability to do this. One key issue is that virtual currency exchanges and wallet providers are not universally required to carry out KYC and AML checks (although this situation may change, for example as a result of the Fifth Anti-Money Laundering Directive in the EU).

Lack of ongoing progress reports post offering

Following a successful token offering, it is not uncommon for the issuer to stop communicating or post only intermittent updates on progress which do not appear to reflect the roadmap. This can fuel suspicions of malicious activity and can add to short-term price volatility.

3. Risks relating to the token and token offering structure

Uncapped offerings

Uncapped offerings may distort the incentives of those raising funds and lead to a risk that the proceeds of the offering are being applied for purposes other than those in the immediate contemplation of investors at the time of the offering.

Risk of market abuse or similar

In certain jurisdictions there may be a risk of market abuse as well as insider dealing (where the tokens are within the scope of applicable legislation) or activities that have similar effects, even if they do not strictly amount to market abuse or insider dealing. So-called “pump-and-dump” activities are an example of such activities, particularly given the relatively shallow market capitalisations of token issuers and the potential profits involved. In certain jurisdictions, there is also a risk that general criminal legislation (for example, relating to fraud) may apply in the absence of specific capital markets legislation.

¹⁹ SEC versus Munchee Inc, Cease and Desist Order, December 11, 2017

Pre-offering discounting

The practice of pre-token offering discounts for tokens – ranging from 25% to 50% – for private investors is commonplace. Depending on the lock-up period for the tokens issued, offering heavy discounts before the public offering can create a perverse incentive structure which can lead to pre-offering investors dumping their tokens during the token offering. Additionally, the degree to which private discounting has been used is often obscured in the whitepaper associated with the token offering and other relevant website documentation, which can lead to an asymmetry of information between investors.

4. Technology-related risks

Technological capability

It is not uncommon for whitepapers or project owners to claim that smart contracts executed on top of tokens have more functionality than currently exists – a problem compounded by the difficulty in obtaining independent technology auditors.

Equally, in the absence of an independent, verifiable source (i.e. beyond the online community) to evaluate token offerings, it can be challenging to evaluate whether the project's stated technological timelines are achievable.

Generally, many token offerings relate to and depend upon technology that is very nascent and still under development. In most cases, such technology has not been audited to enterprise standard. This poses the risk that the relevant technology may fail, potentially leaving investors with nothing.

Cyber security Issues

With respect to hacking, research from Ernst and Young found that token offerings can often attract the attention of hackers – with around 10% of funds lost due to attacks. Also, scammers have targeted the sector spoofing web-pages and platforms to fool retail investors.²⁰

5. Risks associated with trading tokens on token exchanges

Token exchanges on which certain tokens may trade are largely unregulated and may therefore be more exposed to fraud and failure than traditional regulated exchanges/markets. A lack of stability in the token exchanges and the closure or temporary shutdown of token exchanges due to fraud, business failure, hackers or malware, or government-mandated regulation may result in greater volatility in the price of any relevant tokens.

6. Issues for Financial Institutions Entering the Cryptocurrency Markets

Traditional financial institutions, such as banks, broker-dealers, investment advisors, and other regulated entities that seek to provide customers access to cryptoassets and/or investments linked to them need to carefully consider the risks in engaging within the cryptoassets market, notably AML/KYC risks described in this taxonomy.

The cryptoasset market is volatile. Mark-to-market and volatility risks apply to firms that trade crypto-linked investments (e.g. the Bitcoin Trust), which can exhibit greater volatility than, or imperfect correlation with, the underlying digital token;

Protocols for handling operational and settlement issues are currently untested. Cryptoasset transactions are increasingly settled real-time through the use of blockchains, and firms and clients will require the capacity to link to these networks.

²⁰ Ernst and Young research: initial coin offerings (ICOs), December 2017

Industry Initiatives to Address Risks

Given the various potential risks in the token market considered above, it is unsurprising that the predominant focus of governments and regulators is on investor protection. Unfortunately, in the absence of clear prescriptive guidance, token companies have been uncertain of how exactly to navigate these risks to safeguard consumers and assuage regulator concerns, despite their desire to do so.

Against this backdrop a number of community platforms and working groups have emerged, with the objective of providing support and practical solutions to companies wanting to achieve best practice. While these initiatives lack the authority that regulators have, they are a useful vehicle for establishing best practices, as they can foster an eco-system of good conduct that could serve as a guiding framework for policymakers, and simultaneously help token companies avoid some of the pitfalls identified above. Further, such platforms are improving public (and regulator) perception of token companies, who are increasingly being seen as willing to ensure investor protection.

By way of (non-exhaustive) example, the following initiatives have been particularly popular among market participants for their work:

The Brooklyn Project²¹

The Brooklyn Project is a platform that creates solutions to address investor protection issues and dispel uncertainty for market participants. The project has support from a range of academics, token companies and regulators, and has produced a range of open-source tools to assist companies, such as template documents, code snippets and thought leadership pieces.

Crypto Valley Association²²

The Crypto Valley Association is an independent association which supports market participants in Switzerland through policy recommendations, projects across verticals, research, and by organising conferences, hackathons, and other industry events. The association has a defined mission, core values and both general and specific token sale codes of conduct for use by its members.

Other Initiatives

The Global Digital Finance community is also aware of many more initiatives and welcomes the opportunity to collaborate, share working and sharing communities with these efforts.

Regulation²³

1. General introduction to the international regulatory response to tokens and token offerings

Generally speaking, there is a great deal of uncertainty surrounding the legal and regulatory environment worldwide with regards to token offerings for both token issuers and token holders. Different countries have adopted a variety of approaches to token offerings, ranging from blanket bans (such as in China) to the application of existing laws or the development of new frameworks to encourage token issuers to conduct offerings within their jurisdiction (such as Gibraltar). This has led to a situation where there is a clear lack of regulatory consistency on a cross-border basis. Firms currently need to consider carefully the regulatory environment of each jurisdiction in which they operate so as to avoid any unexpected interventions from regulators (or even retrospective sanctions).

Below is an outline of the current regulatory environment in certain key jurisdictions, which highlights the differing approaches set out above. This outline is not exhaustive of all relevant legal or regulatory issues that may arise in the context of a token offering. Without limitation, this note does not consider matters related to the taxation regime governing tokens or the point at which a given token might constitute “money” or “currency” for the purposes of a given jurisdiction, nor does it consider issues of a more general law nature, such as the interaction of tokens with:

²¹ <https://thebrooklynproject.consensys.net/>

²² <https://cryptovalley.swiss/>

²³ The following section provides examples of the current state-of-play across various jurisdictions, provided by contributions from a cross-section of the cryptoassets community, including legal experts and advisors. This information is subject to change, and this document may be updated from time to time to reflect regulatory developments.

- Insolvency law;
- The law of property, title, interests, possession and delivery;
- Laws relating to gambling and betting;
- Laws governing the sale and transfer of goods; and
- Laws governing theft and fraud.

However, we note that clarity is needed with respect to these issues from governments worldwide.

2. Specific analysis of the regulatory regimes of certain jurisdictions in relation to tokens and token offerings

2.1 European Union

EU authorities have highlighted the need to consider whether the relevant token structures and associated activities fall within the scope of existing legislation, while acknowledging that some tokens may fall outside of the existing regulatory regime. In addition, certain Member States (some of which are discussed below) are looking to introduce token-specific legislation.

Tokens and offerings which fall within the existing regulatory regime.

The European Securities and Markets Authority (“ESMA”) has issued a statement warning firms involved with token offerings that they must carefully consider whether their activities would fall within the ambit of existing European legislation:

- “Firms involved in ICOs must give careful consideration as to whether their activities constitute regulated activities. If their activities constitute a regulated activity, firms have to comply with the relevant legislation and any failure to comply with the applicable rules would constitute a breach.
- Depending on how they are structured, ICOs may fall outside of the scope of the existing rules and hence outside of the regulated space. However, where the coins or tokens qualify as financial instruments it is likely that the firms involved in ICOs conduct regulated investment activities, such as placing, dealing in or advising on financial instruments or managing or marketing collective investment schemes. Moreover, they may be involved in offering transferable securities to the public. The key EU rules listed below are then likely to apply.”²⁴

In the same statement, ESMA identified the following pieces of European financial services legislation which could apply to token offerings depending on the activity conducted and the precise characteristics of the token in question:

- MiFID II²⁵/MiFIR²⁶ – firms who are placing, dealing or advising on tokens which are “financial instruments” would be subject to MiFID II’s organisational, conduct of business and transparency requirements as implemented by Member States.

Depending on the characteristics of the token or any arrangements relating to the token, the definition of “financial instrument” under MiFID II may be satisfied in any of the following respects:

- A “transferable security”, which it will be if, generally speaking, it takes the form of a “share” in the issuing company or a “bond” or any other type of security which is negotiable on the capital market (with the exception of instruments of payment – for which, the payment services regime is relevant);
- A “derivative”, which it will be if, generally speaking, it has a value that is referable to an index or the value of some other form of property²⁷; or
- A “unit in a collective investment undertaking”, which it will be if, generally speaking, it represents certain rights in relation to a pool of underlying investments.
- The Prospectus Directive²⁸ – a prospectus must be published before the offer of tokens which

²⁴ https://www.esma.europa.eu/sites/default/files/library/esma50-157-828_ico_statement_firms.pdf

²⁵ Directive 2014/65/EU

²⁶ Regulation (EU) 2016/1033

²⁷ Please note that to the extent the token or any arrangements relating to such token (including pre-sale arrangements) constitute a derivative, this could lead to additional consequences, for example under Article 28 of MiFIR or under EMIR.

²⁸ Directive 2003/71/EC

constitute “transferable securities” to the public or admission to trading of such securities operating within an EU Member State, unless they fall within certain specific exemptions (such as raising less than EUR 5m in total over a period of 12 months or offering tokens to fewer than 150 individuals in each EU member state).

- The Alternative Investment Fund Managers Directive²⁹ (“AIFMD”) – depending on the structure, a token or an arrangement in relation to a token may fall within the definition of an Alternative Investment Fund (“AIF”). Managers of AIFs must adhere to the rules set down in the AIFMD, which include, without limitation, capital requirements, operational and delegation controls, leverage restrictions and transparency requirements.
- The Fourth Anti Money Laundering Directive³⁰ (“AMLD4”) – AMLD4 applies to firms who are “relevant persons”, a type of firm in prescribed list which includes ‘financial institutions’. ESMA has stated that a financial institution includes MiFID investment firms, collective investment undertakings marketing their units or shares and firms providing certain services typically offered by credit institutions without being one. Intended to prevent money laundering and terrorist financing, AMLD4 requires relevant persons to carry out due diligence on all customers and to have in place adequate procedures for ongoing customer relationship monitoring, record keeping and suspicious activity reporting.

In addition to the above, depending on the activity conducted and the precise characteristics of the token (or arrangements relating to such token) in question, it is possible that other European legislation could apply to a token offering. We list out below certain key examples of this, although we note this list is by no means exhaustive:

- The Benchmark Regulation³¹ – where a token is a certain type of financial instrument which references an index, certain obligations under the Benchmark Regulation may apply to the token’s issuer and purchasers of the token.
- The PRIIPS Regulation³² – where the complexity of a token is such that it could constitute a “packaged retail investment” and the issuer offers such token to retail investors (as defined within the PRIIPS Regulation), certain requirements under the PRIIPS Regulation will bite on the issuer, including to publish a “Key Information Document”.
- The Market Abuse Regulation³³ – where a token amounts to a certain type of “financial instrument”, the Market Abuse Regulation will apply to issuers and persons who trade in the token. This may give rise to a number of considerations for such parties, including (without limitation) the potential for behaviour which might constitute market manipulation, the potential for such parties to possess inside information and the potential for certain types of comment/marketing to constitute the provision of investment recommendations.
- The Payment Services Directive³⁴ and the E-Money Directive³⁵ – where the service provided by the issuer amounts to “payment services” or constitutes “E-money” within rules implementing these directives in the relevant EU Member State, certain obligations will apply to the relevant token issuer (for example, authorisation as a payment service provider where such issuer is providing payment services).
- Deposit-taking activities – several token issuers have attempted to link their token to a fiat currency – often on a one-to-one basis – or to the ability for the token offering issuer to buy back the token under specific circumstances. This has been identified by the EBA in a recent speech³⁶ as potentially crossing into deposit-taking activity, which would require formal regulatory permission.

With regard to other EU Member States, to the extent the legislation referred to above is directly effective or otherwise has been transposed, the same considerations as identified above will apply (subject to national law implementation).

Tokens and offerings which fall outside the existing regulatory regime.

²⁹ Directive 2011/61/EU

³⁰ Directive (EU) 2015/849

³¹ Regulation (EU) 2016/1011

³² Regulation (EU) 1286/2014

³³ Regulation (EU) 596/2014

³⁴ Directive (EU) 2015/2366

³⁵ Directive 2009/110/EC

³⁶ <https://www.eba.europa.eu/documents/10180/2151635/Andrea+Enria%27s+speech+on+FinTech+at+Copenhagen+Business+School+090318.pdf>

Where the token being offered falls outside of these and certain other key pieces of legislation, the regulatory regime may be limited to more general issues such as compliance with relevant sanctions regimes.

However, as part of a broader “FinTech Action Plan” published on 8 March 2018, the European Commission has stated its intention to continue monitoring the developments of cryptoassets and token offerings along with the European Supervisory Authorities, the European Central Bank and the Financial Stability Board, as well as other international standard setters. Based on the assessment of risks, opportunities and the suitability of the applicable regulatory framework, the Commission will assess whether regulatory action at EU-level is required.

2.2 UK

In the United Kingdom, tokens and platforms are able to operate as long as they comply with the existing regulatory framework. Some tokens will not fall within the existing regulatory framework, but token issuers and firms will need to determine on a case-by-case basis whether or not this is the case.

The Financial Conduct Authority (“FCA”) has issued guidance which states that, depending on how they are structured, “some ICOs may involve regulated investments and firms involved in an ICO may be conducting regulated activities”. However, in the same guidance the FCA has also recognised that “[m]any ICOs will fall outside the regulated space”.³⁷

Token issuers will therefore need to consider on a case-by-case basis whether or not a given token will be regulated until further guidance is forthcoming.

Given this approach from the FCA, we identify below some of the key areas of UK regulation which are likely to impact token offerings, although we note this is not an exhaustive list:³⁸

- The General Prohibition under FSMA - The key securities legislation in the UK is the Financial Services and Markets Act 2000 (“FSMA”). FSMA contains a general prohibition against the carrying on of a “regulated activity” concerning a “specified investment” in the UK unless the person carrying out the activity is an “authorised” or “exempt person”.

On whether token issuers and other parties participating in a token offering can fall foul of the general prohibition, the FCA’s guidance in their Feedback Statement on Distributed Ledger Technology stated that:

“Whether a participant in an Initial Coin Offering (ICO) requires authorisation will turn, generally, on whether they will be carrying on activities by way of business in the United Kingdom that relate to instruments which could be ‘specified investments’ (such as shares, instruments creating or acknowledging indebtedness like bonds or debentures, units in a collective investment scheme, or derivative instruments like options, futures or contracts for differences) and whether those activities constitute ‘regulated activities’ (for example, dealing in such specified investments, arranging transactions in those investments, advising on them or operating a collective investment scheme). The categories of specified investment and regulated activities are set out in the Financial Services and Markets Act 2000 (Regulated Activities) Order 2001 (“RAO”).”³⁹ (emphasis added).

Token issuers and other parties participating in a token offering must consider carefully whether or not the token or any arrangements relating to the token (including pre-offerings) fall within the broad list of “specified investments” set out in the RAO. While many of the specified investments clearly will not apply in a token offering setting, there are some that seemingly could. For example, there are many token offering structures that could qualify as shares, instruments creating or acknowledging indebtedness, derivatives, units in a collective investment scheme or electronic money.

- Financial Promotions – Token issuers and other parties involved in the promotion or offering of a token will also need to determine whether the activity may amount to a financial promotion. If a communication is a financial promotion, as defined in FSMA, and does not fall within the scope of a relevant exemption (such as where the communication is directed only at persons outside the United Kingdom), it will need to be either issued or approved by a FSMA-authorized person. Broadly speaking, if the token is a form of regulated investment, any communication which invites or induces the recipient to buy or sell the token would be regarded as a financial promotion and would come within this regime, and we note that the application of the exemptions in the context of token investors is not always clear.

³⁷ <https://www.fca.org.uk/news/statements/initial-coin-offerings>

³⁸ We also note that the position of ESMA and the pieces of EU legislation outlined above will also be relevant to token issuances in the UK (at least for so long as the UK remains an EU Member State)

³⁹ <https://www.fca.org.uk/publication/feedback/fs17-04.pdf>

2.3 USA

The current position in the US is that token offerings and associated platforms are welcome, provided they are compliant with the existing securities laws (and any other applicable laws and regulations). There are currently no federal laws in existence that specifically cater to tokens, however there has been a willingness at state level to draft specific legislation outlining which kind of tokens would fall outside of state securities regulations.

The US Government has not yet exercised its constitutional preemptive power to introduce federal regulations on blockchain technology or tokens (as it typically has done for financial regulation), meaning that individual States remain free to introduce their own regulations for now.

The most substantial commentary from the SEC on the regulatory footing of token offerings and tokens in general comes from its analysis of whether the DAO token offering (an early, prominent token offering in the US) had offered and sold securities. In concluding that the DAO Tokens were subject to federal securities laws, the SEC has made it clear that the traditional approach still applies to analysing whether or not an instrument is a security (and that there is no default position). Therefore, following the Howey Test, a token will be an investment contract (and therefore subject to securities registration requirements) if:

- It is an investment of money;
- There is an expectation of profits from the investment;
- The investment of money is in a common enterprise; and
- Any profit comes from the efforts of a promoter or third party.

The SEC's chairman Jay Clayton has been clear that, in his view, every token offering he has seen to date has been a security, and the SEC has aggressively issued subpoenas against firms that have apparently not complied with applicable securities laws. The SEC's willingness to intervene was evident in December 2017, when they issued a cease and desist order against Munchee Inc, a California based company who were in the process of an token offering. The order demanded that Munchee Inc halt their token offering, as it had been determined that its conduct constituted an unregistered securities offer.

At state level there has been some promulgation of specific blockchain token laws. Wyoming's House of Representatives, for example, became the first elected body in the US to exempt tokens with a clearly defined "utility" from Wyoming's money transmission and securities laws, provided they are not marketed as investments. Although sceptics have argued that even if this ever does become law, it could one day be overridden by federal law, state law often provides a useful example by which federal laws are shaped, and we may find that other states will follow suit with similar legislation of their own.

2.4 Gibraltar

Gibraltar has created a new regulatory framework, requiring firms using digital ledger technology to apply for a license.

The Gibraltar Financial Services Commission's (GFSC) DLT Regulatory Framework came in to effect on 1 January 2018, which is the date on which the Financial Services (Distributed Ledger Technology Providers) Regulations 2017 came into force. This is the world's first regulatory framework for blockchain technology. This means that firms in Gibraltar that use digital ledger technology to store or transmit value belonging to others now have to apply for a licence from the GFSC.

The new framework hinges on nine principles designed for blockchain applications that companies must adhere to, namely: honesty and integrity; customer care; adequate resources; effective risk management; protection of client assets; effective corporate governance; systems and security access; financial crime prevention; and resilience.

The authorisation process for DLT businesses is in three phases and the GFSC has indicated that it should take three months to assess an application.

The first stage is a pre-application engagement to discuss the business model and type of activity and/or services the firm wishes to provide in or from Gibraltar.

The second phase is an initial application assessment during which the GFSC will assess, within two weeks, the inherent risk and complexity of the proposed business and provide feedback ahead of the final stage. A non-refundable fee of £2,000 has to be paid at this point, with full application fees being payable later and the amount of the subsequent annual fee varying according to the complexity and category assigned to the DLT provider.

The applicant will then be invited to deliver a presentation to the GFSC and, once a licence has been granted, an onsite visit will be completed.

The GFSC has also introduced transitional arrangements for firms that were already carrying on DLT activities in Gibraltar before the new regulatory framework came into force. These firms have to apply to the GFSC by 31 March 2018 and can continue to operate while the GFSC is reviewing their application.

Nicky Gomez, Head of Risk and Innovation at the GFSC, said:

“[We] expect to be very busy in the coming months, and are looking forward to working on some interesting and innovative ideas with applicants. Working closely and collaboratively with the financial services industry and the Government of Gibraltar has resulted in the GFSC becoming the first regulator to introduce a DLT Regulatory Framework – it is a very encouraging time and we are also looking forward to the challenge!”

2.5 Switzerland

The Swiss Financial Market Supervisory (“FINMA”) has published guidelines for launching token offers setting out how it intends to apply financial market legislation in handling enquiries from token offering organisers.

Switzerland, and notably the canton of Zug, has been perceived to be a crypto-friendly jurisdiction with many initial coin offerings being structured out of Switzerland using a Swiss foundation.

In response to a sharp increase over the past few years in number of token generation events launched or structured out of Switzerland, FINMA has published Guidance setting out how it intends to treat enquiries from issuers of cryptoassets.

FINMA states in its guidance that circumstances must be considered on a case-by-case basis. The approach by the regulator is therefore to assess how individual issuances may be caught by existing regulation. There is, at present, no specific regulation for distribution or cryptoassets.

In making its assessment and determining whether no-action letters can be issued, FINMA will focus on the economic function and purpose of the tokens to be issued. The key factors under consideration will be the underlying purpose of the tokens and whether they are already tradeable or transferable.

FINMA is the first regulator to set out broad categories which it believes tokens will fall into (recognising that some tokens will be a combination of these). The three broad categories are set out below:

1. Payment tokens are synonymous with cryptocurrencies and have no further functions or links to other development projects. Tokens may in some cases only develop the necessary functionality and become accepted as a means of payment over a period of time.
2. Utility tokens are tokens which are intended to provide digital access to an application or service.
3. Asset tokens represent assets such as participations in real physical underlyings, companies, or earnings streams, or an entitlement to dividends or interest payments. In terms of their economic function, the tokens are analogous to equities, bonds or derivatives.

In its determination of how existing regulations will apply to token issuances, FINMA highlights that money laundering and securities regulations will be most relevant. Less common are issuances which are caught by the Banking Act (governing deposit-taking) or the Collective Investment Schemes Act (governing investment fund products).

The Swiss Anti-Money Laundering Act (AMLA) requires financial intermediaries to comply with due diligence and disclosure requirements in respect of client transactions. Within the framework of issuance of tokens, KYC requirements under the AMLA may apply to several persons involved in the offering process. The AMLA will apply in particular to the extent that tokens are used, on a professional basis, for payment transactions. Persons who issue or manage means of payment, or who provide services related to payment transactions, will likely be deemed financial intermediaries within the meaning of the AMLA. The AMLA will also apply to intermediaries who carry out exchange operations, including the conversion of fiat money into cryptocurrency, or who transfer tokens in a secondary sale, to brokers and exchange platforms. All these persons not already subject to prudential supervision of FINMA must for AML purposes either be affiliated to a self-regulatory organisation or be supervised directly by FINMA.

In relation to application of securities regulation, FINMA states that “Securities regulation is intended to ensure that market participants can base their decisions about investments on a reliable minimum set of information. Moreover, trading should be fair, reliable and offer efficient price formation”.

Conclusion

Global Digital Finance and Global Formation

Since its inception in February 2018, GDF has gathered more than 200 industry community members to develop a suitable, self-regulatory code of conduct to address the risks raised in this document.

By coming together and developing a framework that meets the needs of market participants, we endeavor to describe best practice standards for the evolving crypto asset ecosystem to support the exceptional opportunities offered by decentralised technologies and business models for the global economy.

The GDF Community has drafted this Taxonomy and an accompanying Code of Conduct under the “Global Digital Finance” banner. This final version includes public consultation feedback.

This paper has been written to evoke discussion and, therefore should be viewed as a work-in-progress designed to provide input into the on-going work that is developing a set of core principles and minimum standards for token sales. It is an attempt to identify issues hampering the development of the current token market with the aim of fostering the development of tools and to assess and evaluate this nascent area of finance. We hope that this paper will be the foundation for future discussions and used to fill the gap between market leaders and regulators.

APPENDIX – Glossary of Terms

Distributed Ledger Technology

Family of database technologies characterised by replicated, shared and synchronised information in a decentral user network across multiple sites, institutions or geographies.

Blockchain Technology

A blockchain is a type of distributed ledger in the form of a continuously growing list of records based on blocks of transactions, which are chronologically linked and secured using cryptographic signatures. Each block typically contains a hash pointer as a link to a previous block, a timestamp and transaction data. Blockchains are solving the double-spend problem by making each transaction unique and unalterable.

Cryptoasset / Crypto token

A cryptoasset is the necessary digital item to exchange value and execute transactions on a specific blockchain. This document treats the terms cryptoassets and crypto tokens as synonymous.

Initial Coin Offering (ICO)

ICOs are a fund-raising method during which a newly issued cryptoasset is offered in exchange for an already existing one, or against fiat. The new tokens are either created on a new blockchain or using a smart contract on an existing blockchain (typically on “Ethereum”).

Fungible Token

These tokens are divisible and uniform, because they don't have any specific information associated to them that would make them unique. All fungible tokens from the same blockchain are interchangeable.

Non-Fungible Token

These tokens are not interchangeable within the same blockchain. They are unique and non-divisible, which enables the transfer of information and value.

Market Capitalisation

It represents the current value of the blockchain network. It is the results of the price per token multiplied by the circulating supply of tokens. In the crypto industry, the latter is not straightforward to know because the different vesting period for team members, advisors, partners are not necessarily disclosed to the public. Furthermore, tokens private keys could be lost, and therefore the tokens would be out of the circulation forever.

Miners

One way to validate transactions in a blockchain is by using a so-called < Proof of work > consensus mechanism. Each validating node in the network has to use computing power to try to be the first one to solve a mathematical problem. It is a race between the validating nodes to < mine > the next block, and get the rewards (newly minted cryptoasset and the block's associated transaction fees). Each validating node is therefore called < miner >.

Smart Contract

Smart contracts are a way to transfer a cryptoasset under a specific set of conditions. These conditions are written in a code that is run by a blockchain program (e.g Ethereum Virtual Machine). Smart contract can be used to trigger (or not) a cryptoasset's transaction using both hardcoded conditions, and external non-blockchain data (Oracle) satisfying specific conditions.

