

Introduction to Virtual Assets

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2. Introduction to Virtual Assets

A “**virtual asset**” generally refers to digital representations of value that can be digitally traded, or transferred, and can be used for payment or investment purposes. It excludes digital representations of fiat currencies issued by central banks.

A “**crypto-asset**”¹ refers to a type of private digital asset that depends primarily on cryptography and distributed ledger or similar technology. While crypto-assets are often underpinned by DLT (Distributed Ledger Technology), the international community does not take a restrictive, but rather a technology-neutral, interpretation in using the term “crypto-assets” and sometimes this term may be used interchangeably with the terms “virtual assets”.

Blockchain is a subset of Distributed Ledger Technology (DLT) which uses ‘blocks’ of information to keep track of data transactions in a distributed network of multiple nodes or computers. It is a decentralized ledger of all transactions across a peer-to-peer network and the participants in the network can confirm transactions without a need for a central clearing authority. A transaction is digitally recorded using a hash which, once written, cannot easily be altered. The name “Blockchain” comes from its structure, in which individual records, called blocks, are linked together in single list, called a chain. Each block of information added to a blockchain is validated by multiple independent computers/network participants and is digitally encrypted and linked to the previous block, making changes almost impossible.

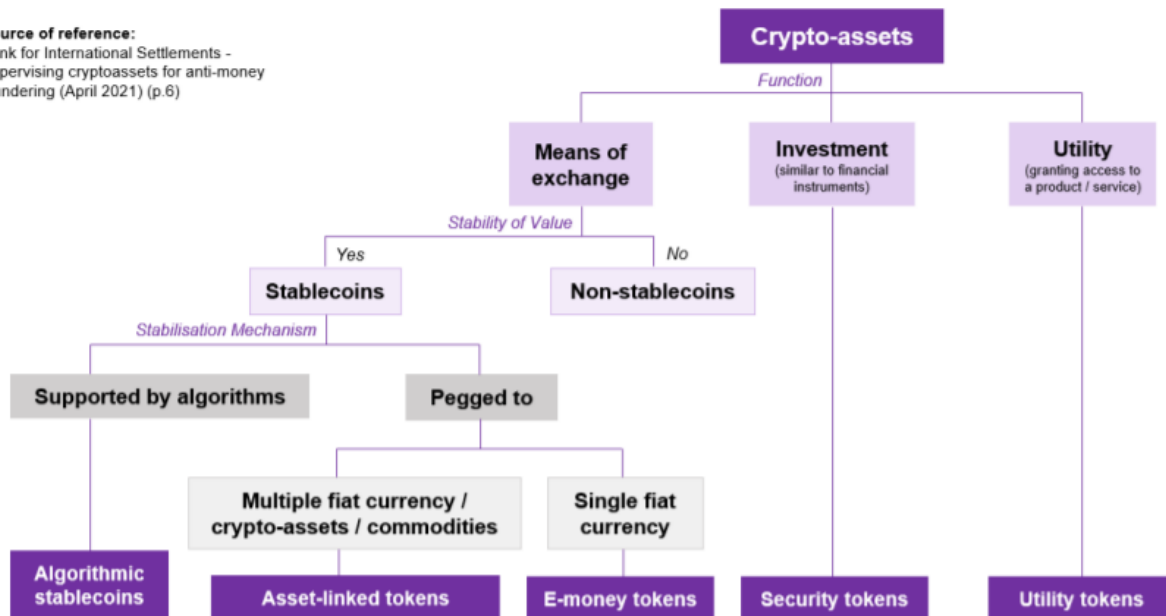
¹ Financial Stability Board (“FSB”, 2020). While the definition of crypto-assets may slightly differ from different sources and may evolve over time, the FSB definition quoted above is a widely accepted one around the globe.

3. Classification of Crypto-assets

Crypto-assets could be categorised in a number of ways, e.g. by way of their construct, economic features and functions. One possible taxonomy based on classification criteria considered by the Bank for International Settlements (“BIS”) references the functions of crypto-assets such as (i) means of exchange, (ii) investment (similar to other financial instruments); and (iii) utility (granting access to a product or service).

Classification of crypto-assets

Source of reference:
Bank for International Settlements -
Supervising cryptoassets for anti-money
laundering (April 2021) (p.6)



Source: Discussion Paper on Crypto-assets and Stablecoins, Hong Kong Monetary Authority, January 2022.

There are different types of crypto-assets including cryptocurrencies, utility coins and security tokens. Crypto-assets can be “asset-linked” and “non-asset linked”. For “non-asset-linked” crypto-assets, the value of these crypto-assets is determined by the prevailing demand and supply, and they may have no intrinsic value. Therefore, this kind of crypto-assets tends to have high volatility in value and is mainly for speculative investment.

Cryptocurrency itself is considered to be a virtual commodity and is not a “real money” which exists as a stack of notes or coins. It is a digital currency designed to work as a medium of exchange, created and stored electronically in the blockchain, using encryption techniques to control the creation of monetary units and to verify the transfer of funds. The majority of cryptocurrencies function without the backing of a central bank or government and the blockchain technology underpins the operation of cryptocurrencies. The most popular types of cryptocurrency in the market include Bitcoin, Ethereum (Ether), Tether, USD Coin and Binance Coin.

Cryptocurrencies whose values are linked or referenced to fiat currencies/commodities are commonly referred to as stablecoins. Stablecoins are often advertised as being pegged to or supported by a single or a basket of fiat currencies and/or other commodities and they could have different designs. Depending on its backing arrangement, a stablecoin can be broadly categorised as an (i) asset-linked stablecoin; or (ii) algorithm-based stablecoin. Common backing assets of asset-linked stablecoins are fiat currency/currencies or commodities (e.g. gold). As for algorithm-based stablecoins, they usually do not have any collateral backing and instead use complex algorithms to maintain their “peg” with the fiat currency/currencies or commodities that they track. Their value may fluctuate more than their referenced assets if the algorithms do not work as well as intended.

Non-fungible tokens (NFTs) are virtual assets, typically in the form of digital collectibles. The ownership of an NFT is recorded in the blockchain, and can be transferred by the owner (allowing NFTs to be sold and traded) and its market value is usually associated with the digital file it references. NFTs are different from cryptocurrencies because NFTs are uniquely identifiable and irreplaceable whereas cryptocurrencies are fungible and can be interchangeable or divisible into smaller units.

Initial Coin (or security token) offerings (ICO) typically refer to specific online offerings which are structured to have features of traditional securities offerings and involve security tokens which are digital representations of ownership of assets or economic rights utilising blockchain technology. In an ICO fundraising mechanism, project operators issue digital coin tokens to investors who are interested in the projects (e.g. blockchain related business). Investors may invest for the rights associated with the digital coin and benefit from the upside potential that the value of investment will become higher than the initial price.

4. Financial Products Referenced to Virtual Assets/Crypto-assets

Other than virtual assets/crypto-assets, there are also financial products such as funds, structured products and derivatives, in which the return is referenced to virtual assets/crypto-assets. One should always refer to the product documents of these financial products to understand how the virtual assets/crypto-assets are linked to payoff of such products and the risks associated with investing into those products.

(a) Virtual assets/Crypto-assets funds and exchange-traded funds (ETFs)

These products, in unit trust/fund format, provide exposure to cryptocurrencies and blockchain technology as asset classes. The funds managed by Virtual Asset/Crypto-asset Fund Managers offer a range of funds with various fee structures, liquidity profiles, and investment amount. The strategies may include passive or active management of cryptocurrencies, investment in early-stage protocols or funding companies in the cryptocurrency or blockchain space, and arbitrage.

(b) Structured notes/derivatives with virtual assets/crypto-assets underlying

In most cases, these are unlisted structured investment products embedded with derivatives linked to the performance of a specific or basket of virtual assets/crypto-assets. These are not equivalent to time deposits and not principal protected. The market value of the structured notes may fluctuate and investors may sustain a total loss of investment.

5. Risks Associated with Investing in Virtual Assets/Crypto-assets

Virtual assets/crypto-assets are high risk, complex products which pose significant risks to investors as these are usually traded with higher price volatility. In most countries, trading of virtual assets/crypto-assets is unregulated (as in most trading, lending or other dealing platforms and custodians of virtual assets/crypto-assets are presently unregulated) and not be subject to the same level of protection as other securities products. As such, it will only be suitable for professional investors who possess sufficient knowledge in the product risks and features of virtual assets/crypto-assets and have the ability to bear the losses arising from the relevant transactions. Investors should always exercise caution when dealing with virtual assets/crypto-assets.

In the market, there are also financial products (e.g. funds, structured notes, derivatives) in which the return is referenced to the performance of a virtual asset/crypto-asset or certain virtual assets/crypto assets (i.e. virtual asset-related products). These products can be structured in different formats and investors should fully understand the product risks and features, as well as the payoff structure before entering into transactions in virtual asset-related products.

Below is the non-exhaustive list of risks associated with investing in virtual assets/crypto-assets. Some of these risks are inherent in the nature and characteristics of the virtual assets/crypto-assets themselves and others stem from the operations of platforms or portfolio managers.

(i) Valuation, volatility and liquidity

Virtual assets/crypto-assets are generally not backed by physical assets or guaranteed by the government and therefore have no intrinsic value. There are currently no generally accepted valuation principles governing certain types of virtual assets. Prices on the secondary market are driven by supply and demand and are short-term and volatile by nature and sometimes there is a lack of secondary markets for certain virtual assets. The volatility faced by investors may be further magnified where liquidity pools for virtual assets/crypto-assets are small and fragmented.

(ii) Accounting and auditing

Among the accounting profession, there are no agreed standards and practices for how an auditor can perform assurance procedures to obtain sufficient audit evidence for the existence and ownership of virtual assets/crypto-assets, and ascertain the reasonableness of the valuations.

(iii) Cybersecurity and safe custody of assets

Trading platform operators and portfolio managers may store clients' assets in hot wallets (ie, online environments which provide an interface with the internet). These can be prone to hacking. Cyberattacks resulting in the hacking of virtual asset/crypto-asset trading platforms and thefts of virtual assets/crypto-assets are common. Victims may have difficulty recovering losses from hackers or trading platforms, which can run to hundreds of millions of US dollars.

Virtual asset/crypto-asset funds face a unique challenge due to the limited availability of qualified custodian solutions. Available solutions may not be totally effective.

(iv) Market integrity

Unlike regulated stock exchanges, the market for virtual assets/crypto-assets is nascent and does not operate under a set of recognised and transparent rules. Outages are not uncommon, as are market manipulative and abusive activities, and these all result in investor losses.

(v) Risk of money laundering and terrorist financing

Virtual assets/crypto-assets are generally transacted or held on an anonymous basis. In particular, platforms which allow conversions between fiat currencies and virtual assets/crypto-assets are inherently susceptible to higher risks of money laundering and terrorist financing. Where criminal activities are involved, investors may not be able to get back their investments as a result of law enforcement action.

(vi) Conflicts of interest

Virtual asset/crypto-asset trading platform operators may act as agents for clients as well as principals. Virtual asset/crypto-asset trading platforms may facilitate the initial distribution of virtual assets/crypto-assets (eg, initial coin offerings), facilitate secondary market trading, or both, as in a traditional exchange, alternative trading system or securities broker. If these operators are not under the purview of any regulator, it would be difficult to detect, monitor and manage conflicts of interest.

(vii) Counterparty risk

Investors in virtual asset/crypto-asset will face counterparty risk when effecting transactions with issuers, private buyers and sellers or through trading, lending or other dealing platforms which in the extreme events they may suffer a total loss of their original investments.

(viii) Fraud

Virtual assets/crypto-assets may be used as a means to defraud investors. Virtual asset/crypto-asset trading platform operators or portfolio managers may not have conducted sufficient product due diligence before allowing a virtual asset/crypto-asset to be traded on their platforms or investing in a virtual asset for their portfolios. As a result, investors may become victims of fraud and lose their investments.

(ix) New risks arising from the continuing evolution of virtual assets/crypto-assets

The virtual asset/crypto-asset sector is fast-moving and technologically dynamic and there may be new risks arising from investing in new types of virtual assets/crypto-assets or market participants' engagement in more complex transaction strategies. Investors need to be aware of those new risks before investing and also the global regulatory developments towards the new types of virtual assets/crypto-assets and transaction strategies.