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Digital Assets & Blockchain Technology: Common FAQs

Digital assets and blockchain technology have gained significant attention in recent years, and with good reason. These innovations have the potential to revolutionise the way the world thinks about our digital infrastructure. However, they raise a number of questions for financial advisors and their clients.

This blog post addresses some of the most common questions we encounter when discussing digital assets and blockchain technology. In the process, we highlight why we believe this space has such vast disruptive potential.

How do blockchains work and why are these networks considered disruptive?

A blockchain is a distributed database that can be viewed, accessed, and updated by any participant in the network. On a blockchain, data is aggregated into individual blocks that are linked together with prior blocks to form a chain. This data can represent a transfer of value or the settlement of any activity on an application. Together, the chain of individual blocks constitutes all of the network's historic data. Thanks to the cryptographic architecture of advanced blockchains, retroactive modification of past data is nearly impossible.

By requiring the database to be stored on all network computers and all updates to the ledger to garner a consensus among users, blockchains offer a secure and decentralised method of data management. This substantiates true digital ownership that cannot be revoked and creates a trustless and neutral settlement layer for data.

The spectrum of applicable use cases for this technology is wide. Because many of the most popular blockchains today support smart contract technology—the building blocks of decentralised applications (dapps)—blockchains have become viable data settlement layers for functions far beyond peer-to-peer value transfers. For more information on smart contracts, visit our Exploring the Disruptive Potential of Smart Contracts blog post.

What are digital assets?

Digital assets leverage blockchain and/or smart contract technology to represent a digital form of value, perform a function or incentivise certain activities. These assets are built based on code that governs all aspects of their economic value, utility, and ownership.

Digital assets can be split into two subclasses: cryptocurrencies and tokens. Cryptocurrencies are native blockchain assets used as digital commodities to power network activity. For instance, ether (ETH) is Ethereum's native cryptocurrency used to pay for the settlement of data on its blockchain. Tokens are smart contract-based digital assets with a wide variety of functions. Tokens can be fungible or non-fungible and can have many different use cases. These include powering specific dapp activities or representing unique pieces of data such as digital and real-world assets on the blockchain.

What are the primary functions of cryptocurrencies?

Cryptocurrencies act as a decentralised, flexible, and programmatic form of capital within blockchain networks. They are embedded with encryption technology that prevents double-spending and allows individuals to verifiably prove their ownership of an asset. Cryptocurrencies can be used as digital

currencies for peer-to-peer payments, as the medium to pay for data settlement in a block, as collateral in decentralised finance (DeFi) applications, and much more.

Another primary function of cryptocurrencies is to incentivise blockchain security participants to act according to network rules. This is critical in coordinating and deriving consensus about the state of the network. In exchange for proposing valid data attestations to the network, blockchains offer rewards in the form of cryptocurrencies. Dishonest data attestations that do not garner consensus from the network earn no rewards and can be subject to penalties. In this way, cryptocurrencies provide an incentive mechanism that allows blockchains to operate securely without any central points of control. For more information on how consensus mechanisms function, visit our Proof of Work vs. Proof of Stake: Why Their Differences Matter blog post.

Why is there more than one cryptocurrency?

Cryptocurrencies serve different purposes and have different features. Some cryptocurrencies, such as bitcoin (BTC), are primarily positioned as store of value assets due to their scarce supply. Others, such as ether (ETH), are positioned as valuable commodities needed for data settlement, and as a medium of exchange needed to interact with a growing ecosystem of dapps.

The open-source nature of blockchain infrastructure allows developers to build a spectrum of cryptocurrencies positioned for different use cases, each with unique value propositions.

What are the differences between the Bitcoin and the Ethereum networks, and why do their respective assets have value?

The Bitcoin network is a globally accessible database that enables the storage and peer-to-peer value transfer of its native asset, bitcoin (BTC). BTC is divisible, fungible, and easily transferable with a programmatically defined monetary policy that ensures its scarcity. Because of its store of value characteristics, bitcoin is often referred to as a form of digital gold.

Ethereum expanded on Bitcoin's innovative use of blockchain technology by creating a platform capable of hosting advanced applications on top of a blockchain, powered by Ethereum's native asset, Ether (ETH). This innovation introduced the concept of smart contracts and laid the foundation for the invention of decentralised applications (dapps). Dapps have the potential to reconstitute the application layer of today's internet. Because these applications are powered by ETH and settle their data to the Ethereum network, Ethereum is positioned as a settlement layer for a new internet of value.

Who controls digital assets?

No single party or network participant controls the digital assets space. The leading cryptocurrencies and tokens are maintained by a network of users who work together to validate and record transactions on the blockchain.

Importantly, participating in these distributed networks is open to all and only requires the correct hardware and software know-how. Software development and maintenance typically fall to a group of developers. Governance voting falls to a group of global participants and often determines software implementation. However, not all digital assets operate the same way, and there are cases where cryptocurrencies and tokens can be highly centralised and manipulated by certain actors.

If digital assets are based on code that lives on a blockchain, can they be hacked? How safe are they?

Digital assets can be hacked, and they are subject to cybersecurity risks. However, a blockchain's design makes it incredibly difficult for attackers to tamper with historic data. Blockchains use advanced

cryptography to ensure data integrity and security. They also feature native defence mechanisms requiring heavy resources and financial capital to conduct dishonest activity. When researching cryptocurrencies, ensuring proper decentralisation and strong consensus mechanisms is paramount to network security.

Additionally, a fault in smart contract code can be a vulnerability for dapps built on blockchains. Hackers often try to exploit gaps in the code or the infrastructure applications that these dapps may rely on. When researching tokens, it is important to consider the smart contract behind the token, the developer team, the token's economic model, supply dynamics, infrastructure dependencies, and relevant on-chain activity.

How will regulation affect the digital assets space?

The regulation of digital assets is an important and complex topic. The regulations that apply to these assets can vary depending on location and the specific details of the asset, protocol, or investment in question. Comprehensive regulatory frameworks may ease public scepticism and serve to attract users to this fascinating industry, but overly restrictive regulation could hinder growth and innovation. While the future regulatory landscape in the U.S. and abroad remains unclear, we believe regulation should ultimately be structured such that investors and users are provided with the protections necessary to allow this nascent industry to flourish.

How can investors start investing in digital assets?

Investors have regulated and unregulated methods for investing in digital assets. Regulated vehicles may offer greater protections for investors, but they may also impose stricter investor requirements and offer less direct exposure to their underlying assets. When considering regulated investment vehicles, it is important to consider management fees, custodial infrastructure, and customer agreements.

Some of the leading regulated vehicles include private funds, separately managed accounts (SMAs), directly backed exchange-traded products (ETPs), derivative-based exchange-traded funds (ETFs), and crypto equities such as public miners and exchanges.

Unregulated vehicles are not subject to government oversight, which means that they may be riskier for investors and do not offer investor protections. The most secure way to manage direct investments in digital assets is by using a self-custodial wallet. While this approach provides investors with direct exposure to the underlying, unique challenges and risks associated with managing a self-custodial wallet and investing directly in unregulated digital assets should be carefully considered.