A New Asset Class: Investing in the Digital Asset Ecosystem

By Pierre Debru
A New Asset Class

INVESTING IN THE DIGITAL ASSET ECOSYSTEM

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Blockchain technology is undoubtedly a revolution in the making. Wherever a transparent, immutable, and digital record of information could be useful—which is across many industries—blockchain has the potential to disrupt the status quo. The range of potential applications for such technology is diverse and far-reaching. The same way that the internet has changed the world over the past 25 years, the configuration of open-source software, public-key cryptography, and distributed ledger (“blockchain”) technology is likely to be part of most aspects of our lives within a couple decades. One key area of impact will be investing and finance, as blockchain creates and expands on a new asset class—digital assets—and provides new currencies for conducting financial transactions.

**THE DIGITAL ASSETS ADOPTION CURVE**

New technologies diffuse throughout society following an adoption curve. The greater the demand for the technology in question, the steeper the slope of the curve, which indicates the speed at which the technology is being adopted. The demand for a particular technology is a function of its supply and the number and nature of “use cases” for the technology, or ways in which the technology can be used. For example, digital technologies have diffused globally to the point where almost every person has at least an internet-connected cell phone—and most of those are smartphones. Figure 1 shows that internet access and cell phone ownership each jumped from virtually zero to more than 90 percent in the past 20 years. Note as well that, with each technological revolution, the adoption curve grows steeper. Digital technologies have diffused across societies twice as fast as electricity did a century before.

Even in industrialized economies, where populations skew older than in emerging economies, the majority of the population does recall life before the internet. They are “digital natives,” people who are comfortable with digital technologies and expect to use it in their daily lives. Lewis Mumford, a U.S. historian who specialized in technology, contended that it’s not enough for new technology to be available. For new technology to take hold at scale, it must be coupled with “a change of mind ... a reorientation of wishes, habits, ideas, goals.” This has happened with digital technology over the past decade.

Now consider the chronic macroeconomic mismanagements, mainly in emerging economies, that bring recurrent hyperinflation, currency devaluation, inaccessible banking systems, and capital controls. Among the digitally native population, these conditions have led to the rising demand

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**Figure 1**

ADOPTION CURVE OF TECHNOLOGIES IN THE PAST 150 YEARS IN THE UNITED STATES

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for payment, store of value, and other decentralized financial (“defi”) service alternatives that various digital asset networks and applications provide.

As a result, in just more than a decade, digital assets have grown from nothing into a vibrant, diverse, and fast-growing ecosystem. Figure 2 shows that the internet grew from fewer than 10 million users to 1 billion users over 14 years. It also shows estimates of even faster adoption for cryptocurrencies and digital assets.

By other measures, such as market capitalization, the digital assets ecosystem hit its all-time high of more than US$3 trillion equivalent in late 2021.

Figure 3 shows the WisdomTree Digital Assets Taxonomy, which maps the digital space by categories. Cryptocurrencies built for payment, such as bitcoin, are the biggest market segment, but they no longer make up the majority of the market cap. Many other categories and use cases have emerged to create a bigger, more robust, and diversified space. Beyond this market cap is the value of the businesses built on or using digital asset networks, often called blockchain equities. Even though blockchain equities’ valuations have dropped with the recent repricing of all growth equities, it is worth noting that, for example, Coinbase recently was valued at more than US$70 billion, and FTX recently was valued at US$25 billion.

Transactions facilitated by some of these networks clear more than US$100 billion equivalent per day, not including transactions conducted within closed-loop services such as Cash App or Blockchain.com.

Like railways in the mid-1800s or automobiles in the early 1900s, digital assets are on a path to complete adoption in the 2000s. This creates huge opportunities for investors. Imagine the returns of an investment in Ford in 1903 or Amazon in 1994. Following the process of entrepreneurial trial and error, however, will lead to periods of boom and bust along the way.

Indeed, finance has been the first target of this disruption. Large crypto-native exchanges, e.g., Coinbase and Binance, as well as numerous defi applications, aim to disrupt loan and credit, insurance, and trading.

We expect new use cases for blockchain to emerge through trial and error. This will not happen overnight. The internet didn’t reach maturity overnight either. It took roughly two decades to get there.

The investing community, however, recently has realized the potential for blockchain’s internet-like disruption. Venture capitalists and private investors have been investing modestly in the space for years. But investment...
The technological evolution that underpins digital assets has led to a diversified ecosystem or network that provides numerous investment opportunities. The evolution has been driven by the use cases for the various technologies: What do people do with the technology? What utility do they get from it? Identifying and categorizing these value propositions points to where the greatest return potential resides now and in the future.

Accelerated in 2021 to $25.1 billion, more than the six prior years combined, as shown in figure 5. This level of investment has provided stable funding for further development of the crypto ecosystem. In the previous wave of developments in 2017, such institutional funding was missing and many projects failed due to lack of funding. The current crop of venture capital investment recipients will provide the next wave of opportunities—though many will fail along the way.

**OUR MAP TO THE DIGITAL INVESTMENT UNIVERSE**

The technological evolution that underpins digital assets has led to a diversified ecosystem or network that provides numerous investment opportunities. The evolution has been driven by the use cases for the various technologies: What do people do with the technology? What utility do they get from it? Identifying and categorizing these value propositions points to where the greatest return potential resides now and in the future. The WisdomTree Digital Assets Taxonomy, shown in figure 6, splits the digital investment universe into eight categories.

**LAYER 1, PAYMENTS**

Layer 1 is the original digital asset category. It allows people to transact digitally rather than via traditional payment rails, e.g., credit card, PayPal, etc., which involve fee-charging intermediaries and take days to settle. Layer 1 instead uses open-source computer code to enable direct, irreversible, and instantaneous money transfers. It includes the following three categories:

1. **Cryptocurrencies**: Cryptocurrencies are fungible, divisible, and developed with technical specifications designed for exchange between transacting parties on the digital asset networks that issue them; e.g., Bitcoin, Bitcoin Cash, Litecoin.

2. **Privacy coins**: Privacy coins preserve one benefit of exchanging cash with technical specifications that obscure the sender, recipient, or amount transacted; e.g., ZCash, Monero.
**Meme tokens**: Meme tokens allow people to create and brand their own coins. From time to time, one of these brands resonates with people on the internet; e.g., Dogecoin, Shiba Inu.

**CENTRALIZED FINANCE**
Centralized finance tokens are issued by private companies and used on or issued using digital asset technology stacks. They are direct competitors to traditional financial service providers. Think of them as traditional finance but with upgraded back-office infrastructure. They fall into the following two categories:

**Centralized-exchange tokens**: Some corporate crypto exchanges issue their own tokens to incentivize traders to use their platforms. The tokens can be redeemed for benefits such as lower trading fees or traded against additional pairs not available for other coins or tokens. Sometimes these tokens also are used as collateral for developing and financing new applications; e.g., Binance Smart Chain, Kucoin.

**Asset-backed tokens**: These tokens are representations of underlying assets and are redeemable for another cryptocurrency, a fiat currency, gold, etc.; e.g., Pax Gold.

**LAYER 1, SMART CONTRACTS NETWORKS**
Smart contracts build on the technology pioneered in Bitcoin and allow people to create sophisticated decentralized applications (dApps). Several competing and complementary smart contract platforms are operating at scale. Each has its own ecosystem of dApps that often overlap or interoperate across networks; e.g., Ethereum, Solana, Avalanche.

**Stablecoins**: Stablecoins are the bridge between the digital asset world and the physical world. They are tokens issued via a digital asset network’s fungible token standard and are designed to mimic some fiat currency, e.g., the U.S. dollar; e.g., Tether, USD Coin, Dai.

**LAYER 2, SCALING**
Over time, as the use of a protocol increases, capacity constraints can be reached. This requires layer 2 scaling.
solutions, which are protocols that increase capacity on the underlying layer 1 networks without changing anything at the layer 1 technical level; e.g., Polygon.

**DECENTRALIZED FINANCE**

Defi mimics traditional financial services and encompasses the next iterations of the centralized finance category. Defi provides services such as trading, lending or borrowing, options, derivatives, etc. Some applications or protocols have multiple functionalities, as described below:

**Decentralized exchange-based tokens.** These tokens are issued by decentralized exchanges, which are computer codes that provide functionality that mimics centralized stock exchanges. They are used to incentivize traders, e.g., by providing lower trading fees, provide a yield derived from trading fees, and sometimes can be used as a vote in governance decisions surrounding the development of the code base; e.g., Uniswap, Sushiswap.

**Lending/borrowing.** These platforms allow people to lend their digital asset holdings to others with various terms (e.g., collateralized or uncollateralized, fixed or variable interest payments, etc.). The smart contract computer code manages each step of the loan, repayment, and liquidation processes; e.g., Aave.

**Derivatives.** Derivative platforms mimic the traditional financial concept by allowing creation and issuance of derivatives on cryptocurrencies, tokens, or assets such as stocks, currencies, and commodities; e.g., Synthetix, dYdx.

**Yield farming.** It is possible to perform the same lending activities across various exchanges; however, the yield that one receives for this lending can differ across exchanges. Yield farming platforms automate the arbitrage process of search and investment for borrowers and lenders. To use these platforms, one must possess the relevant platform’s token; e.g., Yearn Finance.

**Automated market maker.** Liquidity in decentralized markets is automated via a mathematical formula to price assets, to which people can then stake their coins or tokens in return for the output of the formula. These are called liquidity pools. Instead of trading against counterparties, users are trading against the liquidity locked inside smart contracts; e.g., Uniswap, Pancakeswap, Curve.

**Insurance.** These applications allow people to stake their tokens against assets, land, weapons, skills, etc. within digital games or are rewarded for their achievements with tokens native to the game; e.g., Axie Infinity.

**Art.** NFTs are used by creatives to fund and sell digital artwork or collections to buyers on digital markets. Sometimes a community emerges to exchange these collectibles or further develop the intellectual property surrounding the art.

**Gaming.** People use NFTs to purchase assets, land, weapons, skills, etc. within digital games or are rewarded for their achievements with tokens native to the game; e.g., Axie Infinity.

**Metaverse.** In a metaverse, digital assets, fungible tokens, and NFTs make up different parts of universe. Think virtual worlds with digital assets sprinkled throughout; e.g., The Sandbox, Decentraland.

**Sports.** In the past, there were baseball cards. Now there are digital equivalents that span sports, popular sports teams, and their brands.

**MISCELLANEOUS**

**Oracles.** Smart contracts need data inputs from other sources to trigger the terms of their codes. Oracles provide these third-party data feeds in a way that aims to guarantee the integrity and accuracy of the data; e.g., Chainlink.

**Storage.** Rather than storing data in a data center, e.g., Amazon Web Services, people can store their data across a decentralized database. They use the
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Digital assets exhibit an asymmetric payoff statistically and in the longer term.

The payoff of an investment in digital assets is geared toward growth. The downside is limited to the amount invested, but the upside is multiple times that.

Digital assets exhibit a low statistical correlation with traditional asset classes.

Despite the growth potential of digital assets, many investors are still sitting on the fence. In many cases, investors feel that the asset class is too young and that they don’t know enough to invest. However, the opposite may be true. Digital assets reached a peak of US$3 trillion of market cap recently, and use cases are growing steadily.

The size of the digital asset class is now on par with emerging market small caps, listed real estate investment trusts, or global high yield bonds. Figure 7 shows the current market portfolio, i.e., the different listed assets available to investors weighted by their total market capitalizations. The total market represents around $192 trillion, and digital assets represent around 1 percent of that. To minimize deviation from the market portfolio, a passive investor or an uninformed investor should have a 1-percent investment in digital assets. Not investing is, in fact, making an active decision to underweight digital assets, which is a bold bet that the digital asset space will not make it and will disappear over time.

Predicting the future returns of digital assets for the next year or the next 10 years is incredibly difficult. Digital assets are still early in their adoption cycle and growth is firmly on the horizon, but the exact growth trajectory is unknown. Therefore, assessing the right weight to allocate to digital assets based on return expectations is a bit of a fool’s errand. Of course, there are no magic numbers to solve this allocation conundrum for every investor. The right allocation will vary depending on each investor’s risk appetite and belief in the speed of digital assets adoption in the overall economy. However, it is clear that a minimum allocation of 1 percent to digital assets is consistent with a balanced asset allocation and may be reasonable for someone new to digital assets and considering market portfolio exposure. For more advanced investors with specific knowledge of the space, increasing the allocation to a few percentage points could be advantageous.

ENDNOTES

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Calculated in USD on monthly returns. All Country World Index (ACWI), Real Estate Investment Trust (REIT), Treasury Inflation-Protected Securities (TIPS), Hedge Fund (HF), Commodity Trading Advisor (CTA). You cannot invest directly in an index. Historical performance is not an indication of future performance and any investment may go down in value.

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Crypto assets are frequently referred to as crypto “currencies,” but they typically operate without central authority or banks, are not backed by any government or issuing entity (i.e., no right of recourse), have no government or insurance protections, are not legal tender and have limited liquidity. In addition, different crypto assets exhibit different characteristics, use cases and risk profiles.

The use of digital assets is limited primarily to trading and speculative investment, and exposes you to the possibility of loss. For example, crypto assets can experience unique events, such as forks or harddrops, which can impact the value and functionality of the crypto asset. Crypto asset transactions are generally irreversible, which means that a crypto asset may be unrecoverable in instances where: (i) it is sent to an incorrect address, (ii) the incorrect amount is sent, or (iii) transactions are made fraudulently from an account. A crypto asset may decline in popularity, acceptance or use, thereby impacting its price, and the price of a crypto asset may also be impacted by the transactions of a small number of holders of such crypto asset. Crypto assets may be difficult to value and valuations, even for the same crypto asset, may differ significantly by pricing source or otherwise be suspect due to market fragmentation, illiquidity, volatility and the potential for manipulation.

Crypto assets generally rely on blockchain technology and blockchain technology is a relatively new and untested technology which operates as a distributed ledger. Blockchain systems could be subject to internet connectivity disruptions, consensus failures or cybersecurity attacks, and the date or time that you initiate a transaction may be different than when it is recorded on the blockchain. Access to a given blockchain requires an individualized key, which, if compromised, could result in loss due to theft, destruction or inaccessibility. In addition, different crypto assets exhibit different characteristics, use cases and risk profiles.

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