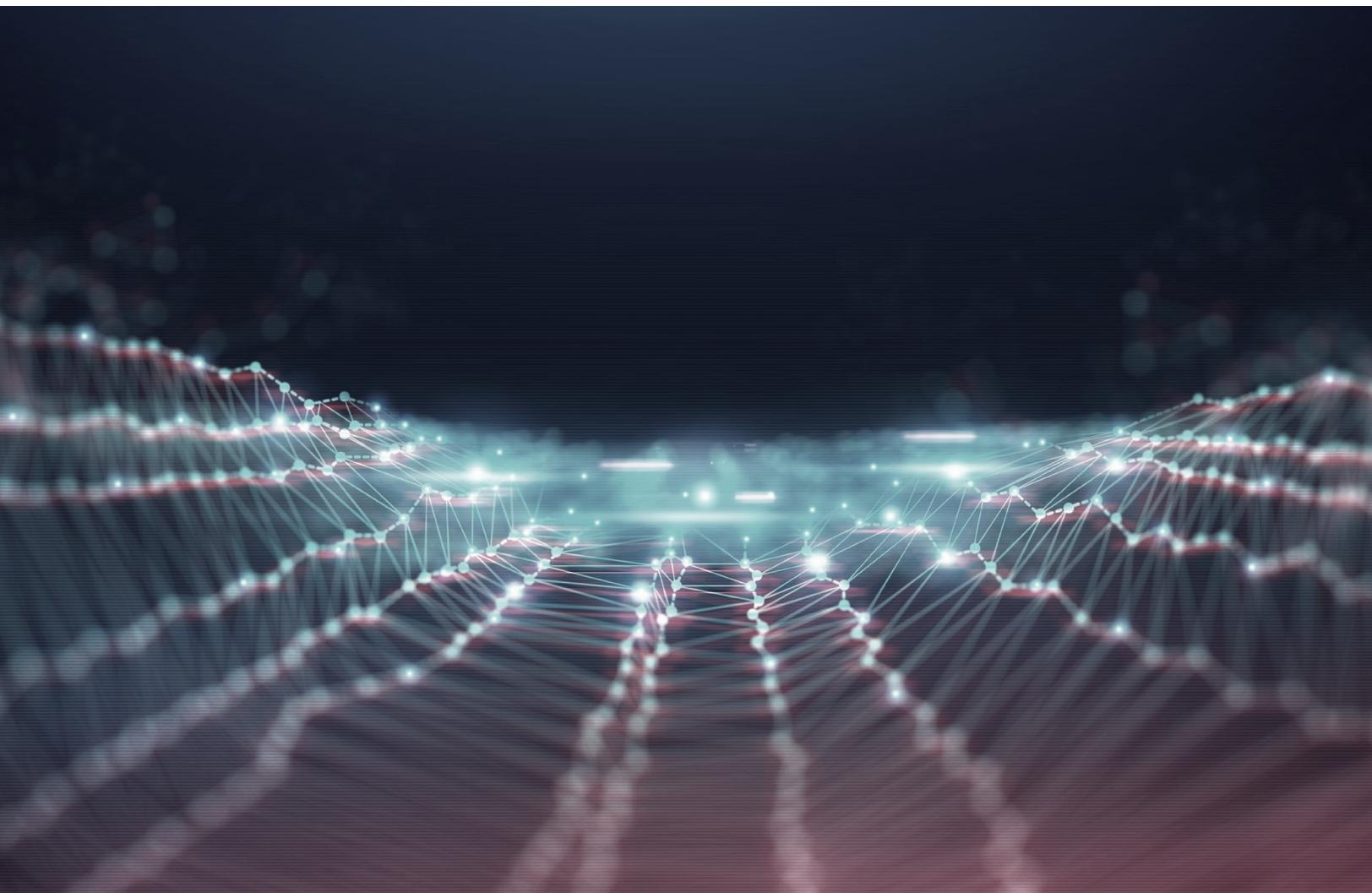


# CAPCO

## THE POTENTIAL LONG-TERM IMPACT OF CRYPTOCURRENCIES ON RETAIL INVESTING

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# OVERVIEW

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Cryptocurrency is becoming a larger slice of global financial markets, and for good reason. As it currently stands, the market capitalization of the five largest cryptocurrencies - or cryptos, for short - sits at approximately \$200 billion, around ten times the roughly \$20 billion it reached in January 2017<sup>1</sup>. Even while that may be considered low for any currency, cryptos have proven themselves as an emerging asset class that offers exposure to disruptive technology, as well as an increasingly popular option for portfolio diversification. Retail investors have been the first to accept and embrace cryptos as an asset class, with an estimated 26 million crypto owners in the United States alone<sup>2</sup>. As the number of retail investors buying into various cryptoassets increases, the abundance of potential opportunities to create efficiency, security, and a more digitalized global market rises with it.

Given the breadth of potential talking points around the topic, it will be essential to stay focused on only a few. This paper aims to shed light on three things:

1. Why retail investors are interested in cryptoassets and the underlying technology
2. What crypto companies are doing and have already done to gain more retail exposure
3. And what that may eventually mean for financial institutions (FIs) who will have to accommodate their clients' crypto preferences.

## A Brief History of Crypto

Since the 2017 peak run of Bitcoin to almost \$20,000 popularized the idea of investing in cryptos, retail investors have been wondering how they can leverage Bitcoin and other cryptocurrencies as profitable investment vehicles. However, digital currencies have existed long before Bitcoin. Multiple attempts to create digital currencies dating as far back as the late 1980s<sup>3</sup>. In all these efforts and eventual failures, there was a striking similarity: the

involvement of a centralized third-party vendor to identify and verify transactions. Then, in 2009, when an anonymous coder(s) under the alias Satoshi Nakamoto created Bitcoin, the need for third parties was theoretically eliminated through the creation of the blockchain; otherwise referred to as distributed ledger technology (DLT).

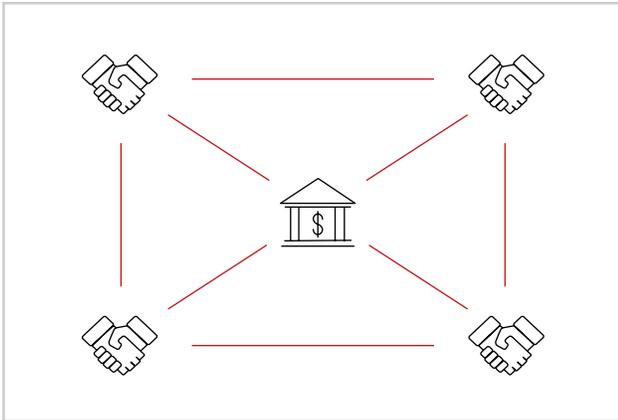
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1. General research from <https://coinmarketcap.com/>
  2. [https://www.jbs.cam.ac.uk/fileadmin/user\\_upload/research/centres/alternative-finance/downloads/2018-12-ccaf-2nd-global-cryptoasset-benchmarking.pdf](https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/centres/alternative-finance/downloads/2018-12-ccaf-2nd-global-cryptoasset-benchmarking.pdf)
  3. <https://medium.com/koinex-crunch/a-brief-history-of-cryptocurrency-889fed168555>

## The Simplified Theory Behind Blockchain/DLT

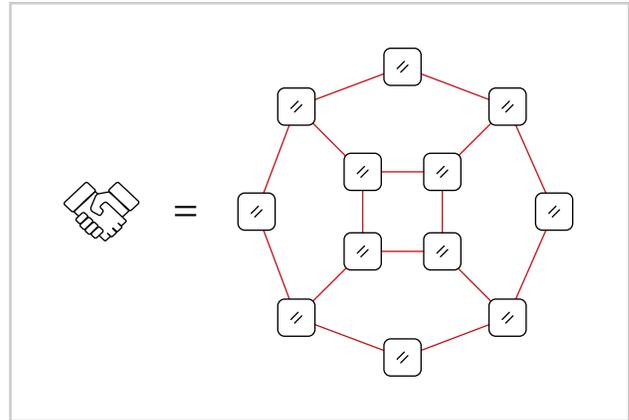
Cryptocurrency's meteoric rise, in both fame and legitimate market value, has had a profound impact on broadening the scope of investment vehicles for main street investors. However, one could argue the underlying DLT is more valuable than cryptocurrencies themselves. At its core, DLT aims to create a trustless peer-to-peer

system through a decentralized ledger, ultimately eliminating the need for any third-party involvement. The graphic below is a simple illustration of the primary differences between traditional ledgers and DLT.

**Traditional Ledger**



**Blockchain/DLT**



With DLT, only a series of transactions verified by cryptographic miners through mathematical proof-of-work can be distributed to all other members of the ledger as an immutable, irreversible 'block' on the chain; hence the popular term 'blockchain.' Miners are often incentivized with cryptocurrency rewards for legally and accurately mining blocks, thus resulting in a fully distributed, trustless public ledger supported by a consensus of equally motivated miners. Additionally, by using unique private keys from each party/person in every transaction on the blockchain, anonymity, and ownership of both parties' unique digital assets is guaranteed. Therefore, you cannot replicate a transaction block's cryptocurrencies illegally for duplicative use following a verified/distributed transaction(s), otherwise known as double-spending. For a closer look at double-spending and/or DLT, check out the Bitcoin whitepaper<sup>4</sup>.

This curiosity around cryptos and DLT has quickly turned into an emerging market, where both new entrants and established crypto firms experienced a 202 percent year over year growth in their ID-verified user bases in 2018<sup>5</sup>. In terms of pure crypto buying/selling (i.e., exchange services), retail investors are the largest user segment by far comprising 46 percent of total users<sup>6</sup>. It is no secret, however, that crypto investing platforms and processes are still not as simple as they could be. Several crypto ventures and exchanges have taken notice and have created more frictionless trading and settlement systems for retail investors. That being said, the current process of investing at a retail level is still in need of improvements to increase widespread adoption rates.

4. <https://bitcoin.org/bitcoin.pdf>

5. [https://www.jbs.cam.ac.uk/fileadmin/user\\_upload/research/centres/alternative-finance/downloads/2018-12-ccaf-2nd-global-cryptoasset-benchmarking.pdf](https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/centres/alternative-finance/downloads/2018-12-ccaf-2nd-global-cryptoasset-benchmarking.pdf)

6. [https://www.jbs.cam.ac.uk/fileadmin/user\\_upload/research/centres/alternative-finance/downloads/2018-12-ccaf-2nd-global-cryptoasset-benchmarking.pdf](https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/centres/alternative-finance/downloads/2018-12-ccaf-2nd-global-cryptoasset-benchmarking.pdf)

# RETAIL INVESTING IN CRYPTOS

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## Current Process

As of now, investing in cryptos is typically broken down into several steps:

1. The first of which is a deposit into a digital wallet housed by a crypto exchange (e.g., Coinbase, Binance, OKEx, etc.) from an authorized bank account, which can take up to a few days.
2. Next, the investor has two options: dollars-to-crypto trading (e.g., USD to BTC), or crypto-to-crypto trading (e.g., BTC to ETH). Regardless of which the investor chooses, the next step is to buy crypto. In doing so, the typical investor normally starts by buying one of the largest-volume cryptos (i.e., Bitcoin or Ether) as they provide the most liquidity by being universally acceptable for crypto-to-crypto trading. In this case, let's assume the investor buys Bitcoin.
3. Once the investor has purchased his Bitcoin, he can use it to buy other well-known cryptos or less well-known cryptos, which are commonly referred to as 'altcoins.' Altcoins are cryptos attempting to build upon and improve the Bitcoin protocol, essentially defined as variants of Bitcoin. Depending on which crypto(s) the investor plans on buying outside of Bitcoin, they may have to transfer their Bitcoin to another crypto exchange using an external (i.e., non-exchange based) hard wallet.
4. Only then, for the most part, are they able to buy different cryptocurrencies on other exchanges. Storing those newly purchased digital asset variants can also be unintuitive. When investors want to sell them, they will often have to settle in Bitcoin/Ether, causing occasional reductions in value upon settlement.

The process of learning and ultimately investing in crypto can be slow and time-consuming. Depending on what kind of cryptos the investor is interested in, it can sometimes require a rather high degree of technical know-how, and a ubiquitous understanding that owning Bitcoin/Ether is the most logical choice to initially secure optimal liquidity in these markets. Overall, many crypto retail products, systems, and services aren't necessarily conducive to ease-of-use, let alone widespread adoption. Recently, however, more and more crypto companies and business models have been trying to change that.

# SHIFTING THE RETAIL LANDSCAPE: CRYPTO PRODUCTS AND DEVELOPMENTS

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## Involvement of Reputable Brokerages

Fidelity and Robinhood are two notable brokerages attempting to get involved in the crypto landscape. Fidelity recently created and launched its crypto arm, Fidelity Digital Assets, which is a one-stop-shop for both crypto trading and custodial services for institutional clients. Robinhood has done the same, but specifically for retail clients. Understandably, Fidelity's crypto-friendly platform launch made a bit more of a splash, as Fidelity has around \$2.5 trillion in total assets under management (AUM)<sup>7</sup> overall. Fidelity Digital Assets operates as a limited purpose trust company, allowing it to sell its custodial and execution services to financial advisors, hedge funds, family offices, and other wealth managers.

This brings a level of legitimacy to cryptocurrencies as an asset class that also signals an evident demand for crypto among institutional clients. Given that Bitcoin, most notably, has been dubbed a 'safe-haven' asset due to its historically frequent low correlation with traditional markets, it is not surprising that some wealth management firms and family offices are trying to offer it as a method of storing value for their wealthier, more risk-tolerant clients, similar to the way they would market an asset like gold.

## Security Tokens

Many accredited investors have been delighted at the creation of security tokens. Security tokens use tokenization to fractionalize illiquid investments into separate, but equally valued, ownership contracts. Thus, creating liquidity for a much larger group of investors. For example, take the tokenization of something as obscure as an athlete's contract. Issuers (i.e., athletes) would

obtain their money immediately for their listed assets. At the same time, investors would receive interest over a duration of time, and at maturity, are eligible to profit from a much higher/lower valuation of the asset. The payout structure would somewhat mirror that of a high-yield bond with more volatile future values. Tokenization is ultimately made possible through distribution of a fixed, deflationary supply of uniquely identifiable digital tokens that can represent equal pieces of various private investments like real estate, growth capital, or private equity. For investors who want to own property, for example, but weren't confident in buying an entire building, or only liked certain units of an apartment complex, tokenization and security tokens would likely be a favorable investment option amongst alternatives.

Security tokens have been prominent in crypto-related news since 2017, but companies have offered services around it long before that. CPI Technologies has been a player in the tokenization space since 2014, mainly providing security token offerings (STOs) to start-ups instead of IPOs. In doing so, they have reported cost reductions of up to 70 percent, as well as 200 percent more funds raised as a result of companies choosing STOs instead of IPOs when going public<sup>8</sup>. Outside of CPI, there are many other crypto start-ups purely dedicated to digitally tokenizing various assets like Securitize, AlphaPoint, and Parallel Markets. In some capacity, they all support the notion that security tokens will lay the framework for a blockchain-based capital markets system emphasizing greater liquidity, auditability, and a minimizing of lag between the current settlement times of traditional securities by using DLT.

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7. <https://beincrypto.com/fidelity-makes-it-easy-for-no-coiners-to-invest-in-crypto/>

8. <https://cointelegraph.com/news/security-token-offerings-the-next-big-thing-in-fintech>

## Crypto in Pension Funds

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*Institutional businesses (asset issuers, university endowments, and pension funds among others) are one of Coinbase's fastest growing businesses, which is why we're actively working on that area.*

”

– Elliott Suthers, Coinbase Director of Communications<sup>9</sup>

In February 2019, two pension funds in Virginia that hold a collective \$5.1 billion for the state's police force invested \$40 million into Morgan Creek Digital's Blockchain Opportunities fund<sup>10</sup>. While this does not even account for 1 percent of the funds' total AUM, the concept of retirement money being thrown into both blockchain start-ups and eventually, cryptocurrencies is conceptually compelling, nonetheless. In the future, the fund plans to diversify into security tokens, which will give crypto skeptics a chance to gain portfolio diversification and liquidity while only having to acquire small, fractional pieces of tokenized physical assets.

Endowments around the globe have caught wind of the news, it seems, and fund managers at Yale, Stanford, Harvard, and MIT are following suit. The University of Michigan has also shown interest, setting aside \$3 million of its \$12 billion endowment fund in 2018 to invest in pure crypto-tech start-ups<sup>11</sup>. The acceptance of crypto by such traditionally risk-averse funds, even if it is small, is a huge step forward for its public perception as both a trustworthy and reliable asset class.

## Crypto-Backed Loans and Interest Accounts

Using a system comparable to other collateralized asset-backed loans, companies like Unchained Lending and BlockFi are pioneering the way for crypto-backed loans. The deal is relatively

simple: investors give them a piece of their holdings in Bitcoin, Ether, and/or Litecoin, and they give the investors back an equally valued lump sum of cash or Gemini USD (i.e., a 1:1 digital USD fiat). In doing so, the investors are provided with the benefit of still maintaining their ownership over their crypto holdings, while also having on-demand liquidity to fund their short-term needs. Additionally, because the assets provided by borrowers account for the full principal of their loan(s), payments by borrowers are interest-only.

These same companies now provide interest accounts as well, offering compounding interest on crypto holdings in supported cryptocurrencies and separate cold storage platforms for retail investors.

## Crypto Robo-Advisors

Unfortunately, most would-be crypto investors are faced with a similar problem: with so many cryptos to choose from, it is difficult to make educated investment decisions. Especially being such a new asset class, it will be comparatively more challenging for any retail investor to accurately identify what would be unanimously agreed upon as a 'safe' crypto investment. That's a problem that robotic investment advisors (robo-advisors) have already started to solve.

Crypto robo-advisors will offer the benefits of additional portfolio diversification and possible returns of large-cap cryptoasset investing without the time and technical know-how that would usually be required if a retail investor were to go it on their own. Using professionally coded numeric algorithms based on user preferences, these bots can convert, liquidate, store, and invest in cryptos, offering a fairly cheap and effortless diversification opportunity for Main Street portfolios. Wealthfront, SoFi, and Automata are some of the most notable companies that have already announced their plans to integrate cryptocurrencies into their preexisting robo-advising technologies. If the past is any

9. <https://coin360.com/news/institutional-investing-in-crypto>

10. <https://www.coindesk.com/two-public-pensions-anchor-morgan-creeks-new-40-million-venture-fund>

11. <https://cointelegraph.com/news/university-of-michigan-endowment-ops-investment-in-andreessen-horowitz-crypto-venture-fund>

indicator of the future for robo-advisors, we should be able to expect that large wealth management firms who already possess in-house robo-advising tech solutions will eventually integrate cryptocurrency investments as well.

## ASSESSING ENTERPRISE READINESS

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*Institutional investments in cryptocurrencies are likely to increase over the next five years, with 47 percent of institutional investors surveyed seeing digital assets as part of their investment portfolios*

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– Fidelity Investments Research Team

The possibility for cryptocurrencies to serve as anything from settlement issuances for business to business transactions to a global system serving underbanked nations and consumers is both hopeful, yet seemingly inevitable. It is still unclear as to how or when enterprises integrate cryptoassets into structured market products, or when adequate regulations will surface that merit more widespread global adoption rates. However, one truth is undeniable: the cryptoasset market has continued to grow at record speeds in recent years. In terms of both blockchain and crypto-centric firms, market experts have predicted the value of their services to reach \$1.4 billion by 2024, growing at a CAGR of 6.18 percent<sup>12</sup> from 2019 onwards.

While many have argued that cryptoassets are simply a solution looking for a problem, the use cases and adoption rates of both blockchain technology and its associated assets hardly support that notion. China, for example, has already launched a state-backed cryptocurrency to be disbursed amongst 1.3 billion Chinese citizens by seven institutional tier-one banking and payment firms. While expert opinions may widely vary on crypto and DLT, every FI at some point in the future will have to weigh the potential advantages and disadvantages that it could yield for their customers and business.

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12. <https://www.marketwatch.com/press-release/cryptocurrency-market-to-grow-at-cagr-of-618-2018-10-30>

## AUTHOR

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## ABOUT CAPCO

Capco is a global technology and management consultancy dedicated to the financial services industry. Our professionals combine innovative thinking with unrivalled industry knowledge to offer our clients consulting expertise, complex technology and package integration, transformation delivery, and managed services, to move their organizations forward.

Through our collaborative and efficient approach, we help our clients successfully innovate, increase revenue, manage risk and regulatory change, reduce costs, and enhance controls. We specialize primarily in banking, capital markets, wealth and asset management and insurance. We also have an energy consulting practice in the US. We serve our clients from offices in leading financial centers across the Americas, Europe, and Asia Pacific.

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