

Global Investment Strategy
Team

Cryptocurrencies and the next digital era

Key takeaways

- Cryptocurrencies could play an important role in our next digital era, as the underlying technology specializes in data security.

What it may mean for investors

- The role of cryptocurrencies, in supporting digital ways of doing business, reinforces our view that cryptocurrencies have become viable investments.

This is the third in our series of educational reports on cryptocurrencies. Our first report, “The investment rationale for cryptocurrencies” noted our view that improved regulatory clarity, as well as improved market depth and breadth, all make cryptocurrencies a viable investment asset. Our second report, “Cryptocurrency Q&A — The basics”, dealt with some common cryptocurrency questions we receive. This third installment addresses how cryptocurrencies may change daily life, and their potential to be a critical piece of the next digital era.

Over the past few decades, three key inventions sparked the digital revolution: the computer, the microchip, and the internet.¹ More inventions have joined the mix, such as fiber optic cables and cellular service, which helped increase physical-to-digital connections.² Chart 1 tracks some of the more relatable growth phases of the internet and highlights that global internet usage has grown from 1% in 1995 to nearly 50% today.³ In developed countries, internet-related growth numbers have often been much higher. As an example, 81% of Americans in 2021 actively use a smartphone – the highest of any country.⁴

Investment and Insurance Products: ► NOT FDIC Insured ► NO Bank Guarantee ► MAY Lose Value

¹ Isaacson, Walter (March 9, 2021). “The Code Breaker”. Simon & Schuster.

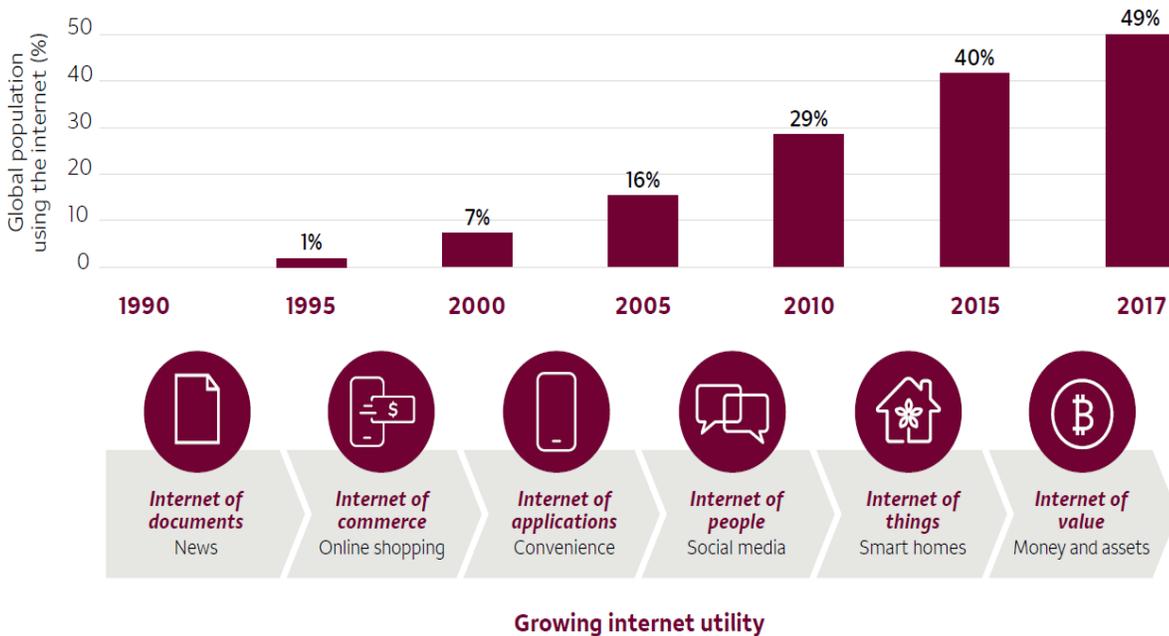
² Alwayn, Vivek (April 23, 2004). “Fiber-Optic Technologies”. Optical Network Design and implementation. Cisco Press.

³ Source: The World Bank, International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database as of July 21, 2021. Yearly Data from 1990-2017.

⁴ Source: Newzoo’s Global Mobile Market Report (June 2021), www.newzoo.com.

It is important to remember that our digital transformation did not happen with the flip of a switch, but it has been a sequence of progressive steps. Each next step up in user growth seen in Chart 1 was driven by a fresh set of big innovations and ideas, often built on the backs of earlier ones. Pinpointing the next big digital step up is not as easy as it may sound. Sometimes the next big thing starts out looking like nothing at all. Technologies can incubate for years, decades even, before they are ready for prime time. Today’s discussion is about one such groundbreaking innovation – cryptocurrencies.⁵ This report explores the important role that we expect cryptocurrencies, and their underlying technologies, to play in the next phase of our digital evolution.

Chart 1. Digital evolution



Sources: Wells Fargo Investment Institute, The World Bank, International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database as of July 21, 2021 (yearly data).

Cryptocurrency feature #1 – Next-level security

For those born before the birth of the internet in 1983, the digitization of daily life has been impressive. Not as impressive, however, has been our track record of securing our personal data. We expect that cryptocurrencies will play a key future role in protecting our personal data, and the underlying technology could greatly accelerate the arrival of even more digital tools.

The internet of the past few decades has been an internet of copied information. When someone sends an email, a picture, a song or other digital material, he or she actually is sending a copy. Copying works well for most of the information that people want to share, but not for the most valuable assets, such as money, art, house deeds, stocks, bonds, intellectual property, etc. The reason is that copying such original assets could devalue them. Someone who buys a home, as an example, needs to trust that he or she holds the original and only deed, not a copy. Today, two people typically exchange a deed through a trusted third party (e.g., a title company).

⁵ Ndung’u, Nuguna and Signe, Landry (January 8, 2020). “The Fourth Industrial Revolution and digitization will transform Africa into a global powerhouse”. The Brookings Institute.

Cryptocurrency feature #2 – Power to the people

Cryptocurrencies approach solving problems, and securing assets and data, in ways that differ from what we are used to today. The cryptocurrency owner places trust in the technology to protect assets and execute legal contracts. In the cryptocurrency world, it is more common for power and control to reside with the individual, not centralized businesses. The person-to-person emphasis makes these new technologies as much a social movement as a financial one, and should become clearer in the real-time examples we discuss next.

Where you might see cryptocurrencies soon

Much of the news and research out there centers on cryptocurrencies as investments, seen in isolation from their supporting technologies or possible everyday uses. Soon, we believe that investors will hear more about how the underlying technologies work together, and how they will affect daily transactions. Below are a few examples of the thousands being developed today.

Art, music, and entertainment

Music is an area ripe for the cryptocurrency industry to change, and it is happening. Cryptocurrencies offer artists a new, more artist-friendly, business model. Artists can go directly to fans, and fans directly to artists, cutting out many third parties in between. A recent example came from a popular rock band that released a special, more expensive version of its new album, as a cryptocurrency. Fans who bought the album in cryptocurrency form gained access to unique experiences, such as spending time with the band, lifetime front-row tickets, and exclusive merchandise.

Cryptocurrencies allow the fans to own personalized albums as assets. Even if the fan sells the album, the technology allows the artist to track and even retain control over the rules of ownership and usage. In this example, the band structured its cryptocurrencies for the fan and the band to co-own the asset. Should the fan decide to resell their special cryptocurrency in the aftermarket, the cryptocurrency includes hard-coded instructions that the band receives a portion of the sales proceeds. The band trusts this arrangement, because the technology behind cryptocurrencies tracks, verifies, and hard-codes each transaction onto an unalterable digital ledger. Ultimately, the band is looking to release all concert tickets as cryptocurrencies, to ensure that the band will receive a percentage of the proceeds from any ticket resales.⁸

Health care

Some cryptocurrency projects give patients the ability to securely move and store their medical records, all from their personal digital devices. The technology allows the patient to control and set rules around access, instead of the healthcare company or provider. Gaining access to personal information, without the owner's permission, is nearly impossible. This technology is almost certainly a step up for those worried about privacy today.

With greater individual control comes potential opportunity, too. Not all will want to do it, but for those willing, there is potential personal profit to be made in selling one's personal healthcare data. As an example, most insurance and healthcare companies today collect and use our data for free, parsing it to understand everything from habits to family histories. Should individuals wrestle back control of their personal data, businesses may have to pay individuals for access.⁹

⁸ Hisson, Samantha (March 3, 2021). "Kings of Leon will Be the First Band to Release an Album as an NFT". Rolling Stone.

⁹ Merchant, Sohail (January 29, 2021). "Cryptocurrencies in Healthcare: Are Healthcare Coins the Future?" AIM by Merchant MD.

Real estate

Cryptocurrencies could impact the biggest industries the most, such as real estate, and often in positive ways. As an example, one crypto project we know of is working to upgrade the Multiple Listing Service (MLS), so that brokers and agents can feel more confident that the entire history of a home is documented. Using a key technology behind cryptocurrencies — blockchain — the history of a house can be more accurately documented and secured. The history could include everything from selling prices and plumbing fixes, to insurance and legal claims. Blockchains are digital ledgers that are open for all to see, yet adding data is restricted to those permissioned only. Importantly, once data is added to a blockchain, it is exceedingly hard to remove. Blockchains can add confidence to real estate dealings, which could potentially save time and money.

Another similar crypto project developing is one that transfers deeds and titles onto blockchains, the primary goals being to remove the need for physical copies and streamline title-related activities. Access can be strictly limited to property owners, while third parties (e.g., cities, states, banks) can access the data as permissioned.

Arguably the largest impact from this technology could come on the financing side. Multiple projects are underway to help make it easier to invest in and divest of real estate holdings. A house seller, as an example, could sell a home to four different investors, not only one homebuyer. The four investors each get a house crypto coin that represents one-fourth of the house. As the value of the home appreciates, so should each coin's value. Rules of ownership are hardcoded into the coins, such as the right of first refusal to buy an investor's coin should one of them need to sell.¹⁰

Cities and states

Private companies are developing most cryptocurrency projects, but cities and states are becoming involved, too. As an example, the state of Illinois has started the Illinois Blockchain Initiative, which aims to use blockchains to enhance security around social security numbers, birth certificates, voter registration cards, etc.¹¹

Protecting personal data

The last example to consider brings us back to the beginning, to Chart 1, and our digital evolution. In 1956, IBM created a revolutionary hard-disk-drive computer that could store what was then an astonishing 5 megabytes of data. The average person today can create that in a matter of seconds: In 2020, over the average 24-hour period, users sent nearly 18.7 billion text messages, published 500 million tweets on Twitter, and watched 5 billion YouTube videos.¹²

Digital growth has come with a personal price, though, namely the loss of personal privacy and data control. Each text, post, search, or online purchase leaves behind a data footprint (Chart 2). Third parties – such as an online search engine or social media application – frequently claim ownership of such personal data and can collect, store, manage, and sometimes sell this data.

To one degree or another, individuals have accepted these tradeoffs with digital businesses, albeit uneasily, to keep connected. According to a 2019 Pew Research study, more than 80% of Americans feel as if they have little control over data collected about them by companies and the government.¹³ There are cryptocurrency projects underway

¹⁰ Daley, Sam (August 6, 2021). "21 Blockchain Companies Boosting the Real Estate Industry." www.builtin.com.

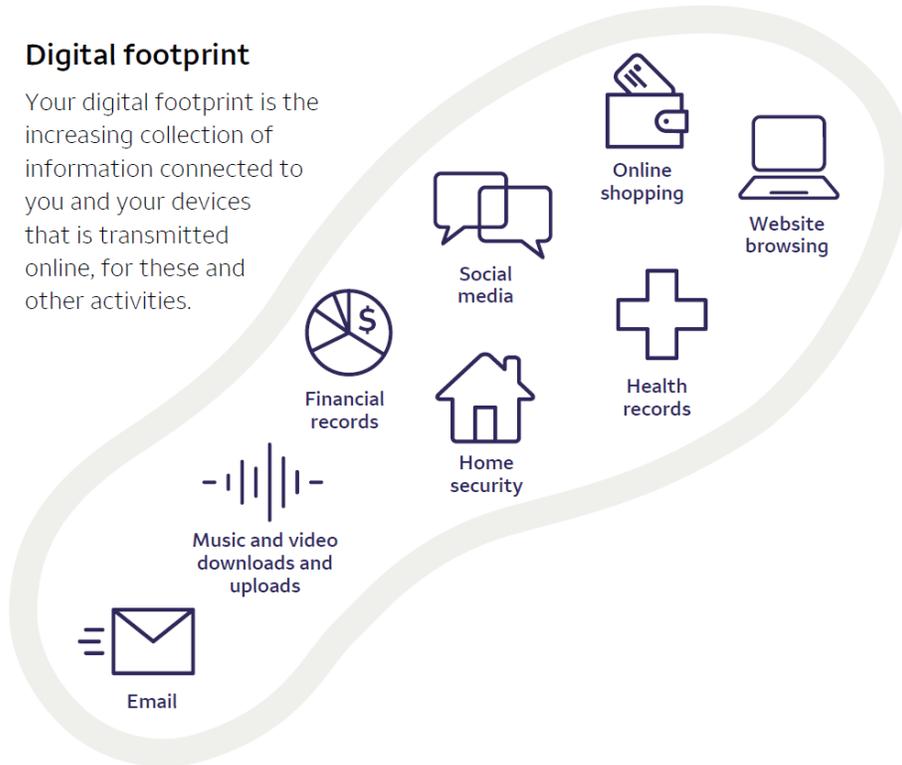
¹¹ Leary, Kyree (September 28, 2017). "Illinois Is Experimenting with Blockchains to Replace Physical Birth Certificates". *Futurism*.

¹² Vuleta, Branka (January 28, 2021). "How Much Data Is Created Every Day? [27 Staggering Stats]." *SeedScientific*.

¹³ Auxier, Brooke (November 15, 2019). "Americans and Privacy: Concerned, Confused and Feeling Lack of Control Over Their Personal Information". *Pew Research Center*.

that can offer solutions, such as wrapping personal data in encryption that is exceedingly difficult to penetrate or use without the owner’s permission. Owners can then keep their data private or sell it to third parties.¹⁴

Chart 2. The digital footprint



Source: Wells Fargo Investment Institute, November 2021.

The bottom line

We view cryptocurrencies as part of a set of technologies that will shape the next digital era. They specialize in protecting an individual’s digital privacy, data, and assets, and they may change the ways people use the internet to make transactions, secure personal data, and even run a business. The premise of person-to-person transactions favors individual digital property rights and controls over today’s more common centralized control by businesses and governments. In this way, broad adoption of cryptocurrencies and their associated technologies by consumers and businesses, in our opinion, is likely to make cryptocurrencies as much a social movement as a financial one. We believe that this social appeal and the security features in these technologies help justify cryptocurrencies as an investable asset and should continue to drive investor interest. Please keep in mind that this space is still evolving, and sorting the winners from the losers can be difficult. For current investment access, we favor professional management through private placements.

¹⁴ Tapscott, Don and Tapscott, Alex (May 10, 2016). “Blockchain Revolution: How The Technology Behind Bitcoin Is Changing Money, Business, and the World”. Penguin.

Risk Considerations

Each asset class has its own risk and return characteristics. The level of risk associated with a particular investment or asset class generally correlates with the level of return the investment or asset class might achieve.

Virtual or cryptocurrency is not a physical currency, nor is it legal tender. Bitcoin and other cryptocurrencies are a very speculative investment and involves a high degree of risk. Investors must have the financial ability, sophistication/experience and willingness to bear the risks of an investment, and a potential total loss of their investment. An investor could lose all or a substantial portion of his/her investment. Cryptocurrency has limited operating history or performance. Fees and expenses associated with a cryptocurrency investment may be substantial. Cryptocurrencies are sometimes exchanged for U.S. dollars or other currencies around the world, but they are not backed or supported by any government or central bank. Their value is completely derived by market forces of supply and demand, and they are more volatile than traditional fiat currencies.

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