

ryptocurrencies were categorically dismissed by the financial establishment until quite recently, when market forces demanded they be taken seriously. Now, major Wall Street financial institutions are furiously developing strategies to make this novel asset class more available to retail investors. Created through the same blockchain technology as cryptocurrencies are non-fungible tokens (NFTs), digital collectibles ranging from high-tech baseball cards to fine art — even real estate.

Merav Ozair, Ph.D. is a member of Rutgers Business School's faculty and a leading authority on blockchain technology's myriad applications. She suggests the best way to think of blockchain, in simplistic terms, is as a ledger or database that cannot be altered or forged, and is decentralized (i.e., everybody has a copy), transparent and pseudo-anonymous. Despite its current volatility, Ozair is confident

that Bitcoin, the largest and most widely followed cryptocurrency, is no fleeting trend, and suggests, "It will survive because it's built on blockchain and that technology will survive."

Bitcoin was introduced in 2009, but it was not until about 2015 that the asset started to gain widespread traction among investors. There are still few mainstream vehicles for investing in Bitcoin or its hundreds of counterparts such as Ethereum, Litecoin and Tether. When the price of a single Bitcoin first broke the \$50,000 barrier in early 2021, the cryptocurrency gained more acceptance as a legitimate investment with a place in every portfolio.

About that time, Tesla announced it would accept Bitcoin for the purchase of its automobiles and the move further validated the cryptocurrency movement. Even though Elon Musk, the company's mercurial CEO, rescinded the offer a few months later, the concept of Bitcoin serving as a bona fide currency was

firmly established. Prominent fintech companies PayPal and Square already sell cryptocurrencies on their sites, as well as accept them for certain transactions, and their stocks are widely viewed as proxies for investing directly in cryptocurrencies.

Coinbase, the largest platform through which consumers can purchase and hold cryptocurrencies, went public in April 2021, an event that further fueled momentum. At this time, several Wall Street firms are attempting to establish cryptocurrency index funds and banks like JPMorgan Chase quietly began offering investment options to clients this past summer.

As of this writing, the current price of Bitcoin, which briefly exceeded \$60,000, is hovering just below \$50,000, but given its volatility, it could soar higher or deflate dramatically by the time this article gets in the hands of readers. Proponents, citing the finite amount of Bitcoin (ultimately capped

at 21 million coins), insist the cryptocurrency could be worth \$250,000 a unit within several years, while skeptics (who include the likes

of investment icon Warren Buffet), view the investment as highly speculative or frivolous.

The blockchain technology that is the foundation of Bitcoin, that unalterable digital database shared on a decentralized network, can be applied to much more than just currencies. There is already a substantial market for NFTs, which are unique images or videos from sports, fashion or cinema based on the same foundational technology. In the art world, NFTs

command prices rivaling artwork that can be physically hung on a wall, and renowned auction houses like Sotheby's and Christie's actively participate in a global marketplace.

Merav Ozair, Ph.D.

Monumental transactions have occurred, such as "Everydays: The First 5000 Days" by artist Mike Winkelmann (aka Beeple), which was auctioned off for a record-breaking \$69.4 million earlier this year. Winkelmann is the world's best-selling NFT artist with total sales exceeding \$113 million, and the total NFT art

market, while difficult to precisely quantify, appears to have recorded approximately \$500 million in sales in just the first four months of

2021. Sales are up sharply from 2020, but some experts see the initial enthusiasm beginning to cool while the world attempts to more fully assess these alternative investments. Sales of NFTs still represent a sliver of the global art market, which was approximately \$50 billion in 2020 (about one-quarter of which was sold online).

Perhaps someday taking the place of the iconic Topps trading cards are NFTs depicting legendary events in sports, such as a Steph Curry three-pointer at the buzzer

or Seattle Slew's Preakness victory. Appealing to history buffs are NFTs documenting digital events, such as the first message ever sent on Twitter — it reads "just setting up my twttr" by company CEO Jack Dorsey — that sold for \$2.9 million. A summertime surge resulted in NFT sales of \$2 billion in August 2021 alone.

Even real estate has value in the form of NFTs, and the Mars House, a rendered piece of digital real estate created by artist Krista Kim, recently sold for \$500,000. More precisely, the

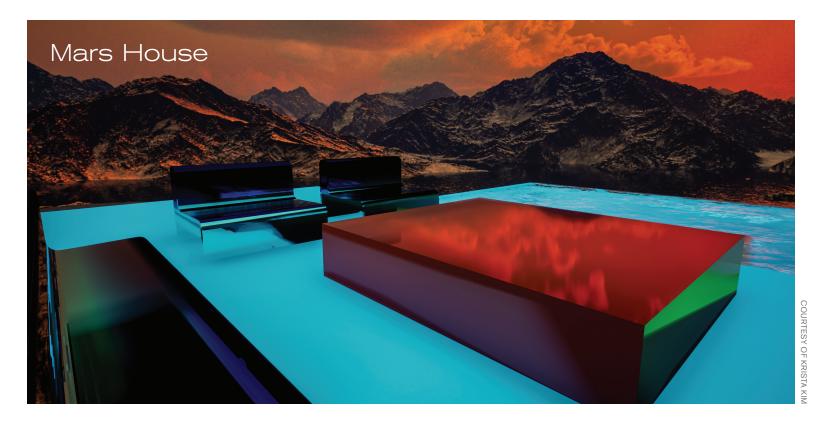
"home" was purchased for 288 Ethers — some believe Ethereum, because of its capacity for "smart contracts," has greater potential for widespread use as currency than Bitcoin — that were equivalent to \$514,557.79 at the time.

The NFT of the Mars House, reflecting a mesmerizing modern design, includes an augmented reality file that the owner can upload with a soundtrack composed by Jeff Schroeder of the band Smashing Pumpkins. The digital real estate transaction took place on an NFT marketplace called SuperRare, one of many that have popped up in recent years to accommodate both artists and collectors. Sites like Decentraland and SuperWorld provide participants an opportunity to purchase virtual parcels of real estate while immersing themselves in an entire virtual metaverse. Recently, a piece of commercial property on Decentraland sold for the equivalent of more than \$900,000 in real U.S. currency.

Janine Yorio, managing director of Republic, which offers retail investment opportunities in startups utilizing emerging technologies like crypto and NFTs, insists virtual real estate is hardly just a game. "Not only is digital real estate capable of delivering outsized returns due to its alignment with the rapidly growing crypto-investment universe, but it also appears likely to become a viable store of wealth, almost like real-world art and real-world real estate," she explains.



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The tech entrepreneur reports savvy mainstream marketeers already recognize the revenue potential of virtual worlds. "As real-world companies set up shop in virtual worlds, they will drive up property values around them and foster investment in new, community-building projects, building a new and valuable digital real estate ecosystem with credible players and significant price tags," states Yorio.

She maintains the rapid adoption of NFTs in the art world demonstrates just how quickly markets can evolve. "While today it might seem crazy to spend \$10,000 on a parcel of pixelated 'land,' take into consideration that some digital NBA Top Shot cards that sold for \$9 a pack last November have since gone for \$200,000 each." Yorio suggests it is completely plausible that digital real estate can hold value or appreciate like other digital collectibles.

Ozair of Rutgers University elaborates, "Instead of putting it on YouTube, you can create an NFT, monetize it and receive a revenue stream," a process she sees as democratizing commerce in our society. When an application is built on the Ethereum blockchain, payment must be made in Ethers, not Bitcoin, a situation Dr. Ozair compares to an application that works exclusively on the iOS operating system in the Apple ecosystem. She reports a breakthrough in resolving that frustrating disconnect among cryptocurrencies

is being addressed by Circle, a platform that automatically converts digital U.S. dollars into the required cryptocurrency for the purchase of NFTs or other digital merchandise.

The professor sees practically unlimited commercial and civic applications for blockchain technology, including public health. When an outbreak of salmonella or E. coli occurs with a grocery product, it can take weeks to discover the precise location of its origin, but an NFT representing a comprehensive, unalterable ledger of agricultural transactions could shorten that to hours or minutes, potentially saving lives and eliminating the needless destruction of untainted food.

Some creative, tech-savvy real estate agents have recognized that the newfound buzz around NFTs can be used to market their listings, and images of a house, embedded in a one-of-a-kind NFT, can be sold in conjunction with the physical property. But NFTs transcend mere promotional value, and a flurry of new "proptech" firms now offer ownership of real estate through the sales of NFTs.

A Silicon Valley startup named Propy automates real estate transactions by deploying smart contracts on the blockchain. The company, whose advisors include executives from Apple and Netflix, insists this is an efficient and secure way to invest in real estate, as the NFT contains every title document and

each transaction is recorded in the immutable blockchain. Propy is a technology company with real estate industry chops and Alexandra Tieu, a former top producer for Keller Williams in Southern California, served as the young firm's chief operating officer. Other companies offer investors fractionalized interests in real estate, and similar tokenization can potentially be used to fund development projects.

LABS Group, a digital investment platform, is collaborating with Singapore-headquartered Enjin to present such opportunities. Investments in real estate assets, beginning at just \$100, will be offered in the form of tokenized property titles minted as NFTs, and the transactions processed on the Ethereum blockchain. "It's only a matter of time before real estate is tokenized," says Enjin CEO Maxim Blagov, who adds, "Together with LABS, we can be among the first to disrupt one of the world's oldest markets."

Professor Ozair excites her students at Rutgers with the unlimited potential of a single technology that supports cryptocurrencies, NFT collectibles and advancements in the real estate industry. "A couple years ago a colleague suggested that blockchain was not even in the first inning, that we were still tailgating," she recounts. Indulging the baseball metaphor, Dr. Ozair adds, "I think today we may still be in the first, possibly the second inning." **KW**