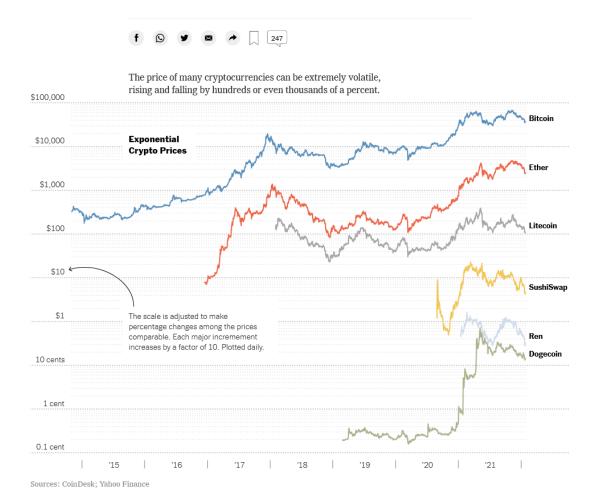
It's Hard to Tell When the Crypto Bubble Will Burst, or If There Is One

Crypto prices are highly volatile, as this week's sell-off showed. But die-hard enthusiasts believe prices will keep soaring in a world where traditional notions of value don't apply.





By Emily Flitter Graphics by Karl Russell

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Since late November, some of the world's savviest cryptocurrency investors have been hooked on a game that has cartoon sheep, cartoon wolves, a digital currency called \$wool — and the potential to make real money.

Graham Friedman, a self-described crypto evangelist, is among them. Mr. Friedman put up more than \$20,000 of his own money to buy one wolf and one sheep — or, rather, unique digital images of them called nonfungible tokens.

"I'm like, dude, the narrative is so cool," said Mr. Friedman, a director at Republic Crypto, a digital asset strategy company. "I'm here for the waltz."

Wolf Game, as it is called, applies some familiar financial principles to a mysterious digital world. Players can buy sheep from the creator of the game, identified only as "the Shepherd," and lend them back to "the barn" — essentially a storehouse — to earn interest. The payments are in \$wool, a digital token that can be used as a form of payment anywhere on the Ethereum blockchain, on which the game is built. To get a sheep back from the barn, players must pay a 20 percent tax in \$wool to those who bought digital images of cartoon wolves.



When Wolf Game's creator discovered that the game was vulnerable to hackers and shut it down temporarily to fix its code, freezing everyone's assets, players had little recourse. They simply had to wait and hope that the game would come back online and that they would be able to retrieve their holdings. This spooked some participants, who got out as fast as they could once the game was running again. But others, including Mr. Friedman, kept playing.

"Getting in there when it looked sort of damaged and reputationally unsure turned out to be very smart," Mr. Friedman said. By essentially buying the dip, he had tripled his investment to \$60,000 as of January.



Graham Friedman, a self-described crypto evangelist, tripled his investment playing Wolf Game. Maggie Shannon for The New York Times

So it goes in the world of cryptocurrency — a market full of faceless users with nonsensical names who are just as likely to post animated pictures of dogs doing backflips on the moon as they are to buy or sell something of enduring value. There's big money to be made, but a billionaire investor can get swindled just as easily as a newbie buying a tiny sliver of a single Bitcoin.

Got an idea? Issue a digital coin to fund it — all you need are believers.

And it's getting wilder.

As stocks were sold off early this week, crypto prices also plunged. Bitcoin dropped nearly 13 percent before rebounding along with stocks. Ethereum's own coin, Ether, was briefly down 15 percent. Their price declines have dragged down other digital asset prices, too. Analysts attribute the decline to investors who are pulling their money out of higher-growth, risky assets — including technology stocks — as interest rates are set to rise. That has put a dent in the argument, promoted by crypto boosters, that digital assets offer a hedge against losses in other markets.

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Despite their volatile and occasionally inscrutable nature, cryptocurrencies are becoming more widely traded, used and held — El Salvador recently started accepting Bitcoin as legal tender, the Federal Reserve is studying whether to issue its own digital coin, and wealth managers are encouraging clients to explore crypto assets.

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So how does a new investor make sense of crypto and its constantly changing landscape?

The short answer: It's impossible.

There are so few reliable measures of value that it's hard to tell whether the excitement around a particular cryptocurrency is justified — or a bubble about to burst. Traditional financial analysis doesn't apply here. A stock analyst, for instance, determines whether a company's shares are expensive or cheap by assessing its business model, future prospects and leadership. But few, if any, of those metrics translate to cryptocurrency valuation. Belief alone can drive value.

It's hard to even know what counts as a "cryptocurrency." Bitcoin and Ether are widely regarded as currencies because, like the dollar or the pound, they are used to buy and sell many goods and services. Another 11,000 or more digital coins and tokens also exist, many of them vying to gain enough acceptance to become the next Bitcoin or Ether.

(Coins operate on their own digital backbones, called blockchains. Tokens rely on other blockchains to get around in cyberspace. Coins, tokens and other assets are stored in wallets, which are comparable to online bank accounts except that their holdings are visible to all.)

By standard measures of value, the prices of Bitcoin and Ether are understandable. They are priced highly — with market capitalizations on Wednesday of nearly \$690 billion and \$290 billion — because they are well established and liquid, with broad user bases. Bitcoin is held in nearly nine million wallets, according to Chainalysis, a data provider.

But there are many other coins and tokens whose prices are skyrocketing, giving them market caps above \$1 billion even though they have only 100,000 or so users.

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For example, there have been \$25.5 billion worth of transactions—representing the volume of trading—in RenBTC, an 18-month-old token designed to connect Bitcoin to the Ethereum blockchain. Its market cap peaked above \$1 billion in October and was around \$765 million on Wednesday, but RenBTC was traded between just 1,732 wallets between Nov. 20 and Jan. 13, according to Chainalysis.

Eight Crypto Coins Compared

Together, Bitcoin and Ethereum are worth more than \$1 trillion, but other cryptocurrencies are orders of magnitude smaller. And for some, the number of people trading large sums of money is relatively low.

	Market value As of Jan. 26	Trading amount Transaction volume, 2021	Number of traders' From Nov. 20, '21, to Jan. 13, '22
BITCOIN	\$715 bil.	\$1.08 tril.	26 mil.
ETHEREUM	\$303 bil.	\$4.14 tril.	11 mil.
TETHER	\$78 bil.	\$1.87 tril.	801 thous.
DOGECOIN	\$19 bil.	\$142 bil.	1.3 mil.
LITECOIN	\$8 bil.	\$89 bil.	10 mil.
TRUEUSD	\$1.5 bil.	\$36 bil.	9.7 thous.
SUSHISWAP	\$570 mil.	\$66 bil.	30.3 thous.
REN	\$340 mil.	\$7 bil.	6.7 thous.

*Number of wallets receiving funds

Figures are rounded. • Sources: Chainalysis; CoinDesk; Yahoo Finance

"Bitcoin is used by people all over the world," which explains its value, said Maddie Kennedy, a Chainalysis spokeswoman. But coins with plenty of activity by relatively few users are "dominated by an active insiders' club," she said.

So what's a new investor to do? One way to cut through the thicket is to pick a coin or token that is built to fulfill a certain purpose — as an alternative to traditional money, like Bitcoin, or, say, a way to transfer money to parts of the world where basic banking services are hard to come by. No matter how its value fluctuates, the thinking goes, there will be a reason to use it, which can make it a good investment.

Mark Cuban, who became a billionaire by selling an internet radio company to Yahoo in 1999, recently learned this lesson the hard way. In June, he began experimenting with "yield farming," buying tokens called <u>titan</u> specifically so he could earn interest by lending them back to the platform that was selling them. The success of Mr. Cuban's bet depended on their value rising, but instead it plunged to zero.

Mr. Cuban had a net loss of almost \$200,000.

"I made money as a liquidity provider and lost money as a speculator," Mr. Cuban said. "I should have done more homework on it." His takeaway, he said, was that it is wrong to invest in a coin that has no underlying reason for existing.

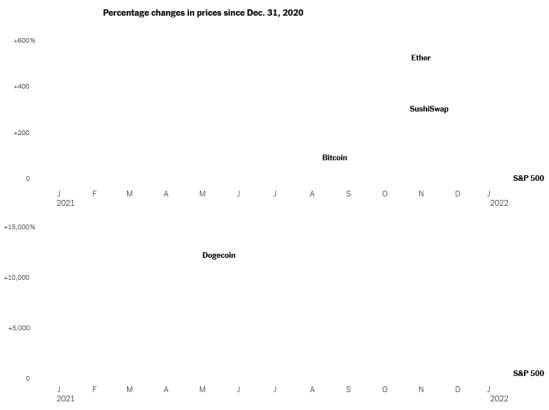
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Bitcoin is likely to continue to exist because, as the world's first cryptocurrency, it is owned and used by more than 150 million people — a number greater than the population of France or Japan. Ethereum's purpose includes the fact that its blockchain serves as a backbone for tokens other than Ether — effectively giving users of different tokens a common medium through which to exchange items of value.

Crypto Prices vs. the Stock Market

The prices of cryptocurrencies have periodically outpaced the stock market. One token of Dogecoin has never been worth as much as one dollar, but when its price spiked to 72 cents last year from one half of one cent at the end of 2020, that amounted to a staggering 15,000 percent increase. It subsequently fell just as sharply.



Solana and Polygon are other networks with their own coins that could eventually be used to trade anything from carbon credits to digital versions of academic textbooks.

That makes coins like Dogecoin and Shiba Inu, which were started as internet jokes, or \$wool, a token built for Wolf Game, questionable investments, since they serve no apparent purpose except as tools of speculation. Dogecoin was briefly worth more than the total value of shares of Twitter last year. Shiba Inu had a market value of \$11.5 billion on Wednesday.

A Guide to Cryptocurrency A glossary. Cryptocurrencies have gone from a curiosity to a viable investment, making them almost impossible to ignore. If you are struggling with the terminology, let us help:

"Memecoins turn our idea of 'value' on its head," said George Kaloudis, an analyst for the media outlet CoinDesk. "Shiba Inu should not be worth anything close to 11 figures." Risk isn't enough to deter some crypto entrepreneurs from doubling down.

Shane Rodgers, a former investment banker, recently started PDX, a payments processing company that will let consumers buy retail goods using cryptocurrencies even from vendors that don't accept them. But rather than raise money for his start-up from traditional investors, Mr. Rodgers debuted PDX Coin in mid-December. People who like his business idea can buy the token instead of shares in his company.

By putting all of his company's value in crypto rather than in hard currency, Mr. Rodgers lives with the fear that a big cryptocurrency sell-off could singe all digital assets and shrink the value of PDX. On May 19, for example, Bitcoin plunged 30 percent after the Chinese government said it would restrict banks from handling cryptocurrencies, dragging down other crypto prices and showing the potential for contagion in the market for digital assets.

"You would just have to sit back and wait for the market to correct itself," Mr. Rodgers said.



Shane Rodgers, a former investment banker, issued a digital coin to raise money for his crypto start-up. Sasha Maslov for The New York Times

Mr. Rodgers isn't the only one who lives in fear of a sudden cryptocurrency sell-off. When Bitcoin plunged last May, Binance.com, the world's biggest cryptocurrency exchange, was overwhelmed and began to malfunction.

Fawaz Ahmed, a crypto trader in Toronto, had a big futures position open on Binance's platform, which he had built partly with funds borrowed from the exchange. With prices sinking rapidly, he knew he needed close it out. But with Binance not working properly, Mr. Ahmed was unable to sign into his account. When he finally regained access hours later, Binance had taken possession of all of Mr. Ahmed's holdings to cover the losses from the wrongway bet.

"I could do nothing but watch my hard-earned money go to zero," Mr. Ahmed said. At the time, he estimated his loss at \$13 million.

He joined hundreds of Binance users in asking for their money back, but the world's largest cryptocurrency exchange refused. The users explored options for suing to recover their money, but since Binance has no headquarters, a U.S. or European court wouldn't work. The only venue deemed suitable was an arbitration authority in Hong Kong.

Mr. Ahmed joined a group of users who borrowed \$5 million from a litigation finance firm to hire the elite New York firm White & Case to represent them. "I'm feeling very good about our chances," Mr. Ahmed said.

Riley Kim, a Binance spokesman, declined to comment on the arbitration. "We strive to take care of users to the best of our ability," he said.

