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Bitcoin: Money or Financial Investment?

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GLOSSARY

Exchange: A market (real or virtual) in which buyers and sellers of financial instruments meet to conduct trades.

> "Economists like to argue that money belongs in the same class as the wheel and inclined plane among ancient inventions of great social utility. Price stability allows that invention to work with minimal friction."
> —Ben S. Bernanke

Bitcoin has become a cultural and financial phenomenon. While many people have heard of Bitcoin, far fewer understand it. In short, Bitcoin is a digital currency, or "cryptocurrency," that allows person-to-person transactions independent of the banking system. Bitcoin is not a physical coin that you keep in your purse or wallet. Rather, it is a virtual currency—a digital computer code you store in a virtual wallet in cyberspace and access with a computer or smartphone app. Some see Bitcoin as revolutionary because it allows people to transfer money to each other very easily (like sending an email), even across international borders. Lately, however, many people are buying this virtual currency purely as a financial investment, hoping it will appreciate, rather than using it for transactions. So which is it—currency or financial asset? Or perhaps the line dividing one from the other is not very clear.

Is Bitcoin Money?

Traditionally, currency is produced by a nation's government. In the United States, the U.S. Treasury, through the United States Mint and the Bureau of Engraving and Printing, produces the coins and bills we spend. The Federal Reserve System (the central bank of the United States) distributes money through the banking system. This money is fiat money; that is, its value is not backed by gold or some other commodity. Instead, its value comes from its general acceptance as money. In other words, U.S. dollar bills and coins are useful as money because of the way people use them in the economy.

Money serves three functions in an economy: medium of exchange, store of value, and unit of account. To be an effective medium of exchange, money must be acceptable in exchange for goods and services. Bitcoin can be used as a medium of exchange for a limited number of goods. Bitcoin's credibility as a medium of exchange was enhanced when Richard Branson accepted Bitcoin from the Winklevoss twins for a ride on his spacecraft.[1] While the number of companies that accept payment in Bitcoin has been growing, these transactions still represent a tiny part of the economy. In addition, while Bitcoin was created as a peer-to-peer payment system, many of the Bitcoin transactions that occur between consumers and companies involve “middlemen” who facilitate the transactions by exchanging Bitcoin into conventional currencies.[2] A transaction itself can be costly in both time and money—on average, it takes 78 minutes to confirm a transaction (although it can take much longer) and costs $28 to complete a transaction.[3] In addition, people generally prefer a medium of exchange that maintains stable value over time (as compared with services or a basket of goods). For example, the Federal Reserve’s inflation goal is 2 percent annually. If this target is achieved, the U.S. dollar will lose purchasing power at 2 percent per year. The Federal Reserve considers this inflation level to be “price stability”; that is, a rate of inflation that is low and stable enough to be nearly irrelevant to people’s economic decisions. Bitcoin’s value, however, has not been stable over its history.

Because money also serves as a store of value, the stability of that value is even more important. Bitcoin’s value has grown quite dramatically in recent years. Now, volatile prices might not seem to be a threat to the store-of-value function of money when prices are rising; but when prices are falling, people are reminded that *stable value* is an important aspect of *store of value*. For example, Bitcoin has had several periods when prices fell dramatically, including a 20 percent decline in value on the morning of November 29, 2017.[4] In fact, Bitcoin experienced five different episodes of at least 20 percent losses (what market watchers describe as a “bear market”) during 2017.[5] Economist Robert Shiller says this volatility damages Bitcoin’s store-of-value credibility and is a major hurdle to its acceptance as a currency.[6]

The store-of-value function has also been diminished because of hacking attacks, thefts, and other security problems.[7] For example, hackers brought down Mt. Gox, which in 2014 was the largest Bitcoin **exchange**, and 850,000 Bitcoins went missing at the same time (valued at $14 billion at a price of $17,000 each).[8] On December 7, 2017, hackers stole $70 million worth of Bitcoin.[9] Bitcoin owners lack the ability to hold Bitcoin as a deposit in a bank; instead, owners must hold them in a digital wallet, and deposits are not government insured the way the Federal Deposit Insurance Corporation and the National Credit Union Administration insure deposits at banks and credit unions.

Money also serves as a unit of account, a common measure to value goods and services. Because Bitcoin prices fluctuate dramatically while the market is open and from day to day, retailers must recalculate their Bitcoin price frequently, which is likely to confuse both buyers and sellers. In addition, the price of Bitcoin fluctuates on exchanges, and Bitcoin often trades at different prices on different exchanges, which further complicates pricing decisions by sellers.[10] Finally, the high cost of one Bitcoin relative to the price of ordinary goods requires merchants to quote Bitcoin prices for most goods to four or five decimal places. For example, if a Bitcoin trades for $11,000, a $2 candy bar (in Bitcoin, or BTC) would be priced at 0.00018 BTC, or 1.8×10^{-4} BTC. Most modern accounting systems accommodate two decimal points in the price of a good (not five). In short, while Bitcoin is a virtual currency, it lacks some key characteristics that could render it more useful.

Is Bitcoin a Financial Investment?

The line between money and financial assets is not always clear. In fact, money is a type of financial asset—one that is highly liquid (used to make payments) but that typically pays little or no interest.[11] Other types of financial assets are less liquid but offer the potential to pay returns. For example, people buy stocks and bonds with the expectation that they will earn interest, receive dividend payments, or sell the asset at a higher price in the future. While Bitcoin was originally developed to function as currency, there has been a noticeable increase in demand from those who buy Bitcoin as a speculative investment.[12]

This speculation by investors has driven Bitcoin prices to rise so fast that some financial experts call it a “financial bubble.” One definition of a bubble is when the price of an asset diverges from its underlying fundamental value. Think of a bubble you blow with bubble gum—as you blow more air into the bubble it gets bigger and bigger, but at some point the pressure exceeds the capacity of what the gum can hold, and it pops. Similarly, a financial bubble occurs when increasing demand for an asset causes its price to rise higher and higher, far above its

Dutch Tulip Bubble

One of the classic examples of a financial bubble dates back to the 1600s in the Netherlands. Tulips were relatively new to Western Europe in the 1600s, recently imported from Turkey, but they quickly became a status symbol as they were very popular and considered a luxury. Some tulip bulbs were valued more than others; that is, the bulbs that produced flowers with streaked flame-like patterns were valued above bulbs that produced single-colored flowers. A market for tulip bulbs developed, and tulip growers started bidding up their prices. Before long, it wasn't just tulip growers who were interested in buying the bulbs. Once prices started rising, financial innovations such as "futures" and "options" markets started to develop, which allowed investors to bet on rising prices without actually taking possession of the bulbs.[21] Buyers bid for the rare bulbs—racing to buy before prices increased further. By 1636, the tulip bulb became the fourth-largest export of the Netherlands. The rarest of these bulbs were worth quite a bit. In January 1637, a single Semper Augustus bulb was worth the equivalent of one of the nicest homes in Amsterdam complete with coach house and garden. But you would have been sorry if you bought one of those bulbs in January 1637 because by February, speculators decided they were unwilling to support the high prices and pulled out of the market. As prices fell, investors clamored to sell before prices fell any further, and the market (and prices) collapsed.[22] In hindsight, tulip bulbs were drastically overpriced. Investing in overpriced assets often relies on the "greater fool theory" of investing, which says that the intrinsic value of a financial asset is not what is important, but it is what people are willing to pay for it that is. As long as there is a "greater fool" who is willing to pay a higher price, people are going to buy. As long as the price rises, this works well. But prices don't rise forever, and bubbles often pop—the loser is the one left holding the asset when prices drop.[23] The story of Dutch tulip bulbs is used as a warning to avoid the speculative behavior that often results in financial bubbles.

underlying value. As prices rise, current investors enjoy rising asset prices and might be tempted to buy more. Others, afraid they are missing an opportunity, may see the upward momentum and choose to invest, assuming that the trend will continue. But bubbles often pop—that is, there is a big price drop—generating large losses for those holding the asset.

How quickly did Bitcoin prices rise? While prices fluctuated wildly during the year, Bitcoin finished 2017 with a gain that was just shy of 1,400 percent.[13] Financial experts see investors' excitement about Bitcoin as similar to investors' response to technology stocks in the 1990s and houses in the 2000s—in both cases, investors continued to buy even after prices had climbed, expecting that others would buy the asset from them at even higher prices in the future. Others, afraid they were missing out on a potential opportunity for profits, were drawn in—pushing prices even higher.

Both Jamie Dimon, CEO of JPMorgan Chase, and Warren Buffett, regarded as one of the world's most successful investors, have called Bitcoin a bubble.[14] Dimon has said that it is worse than the infamous tulip bulb bubble of the 1630s[15] (see boxed feature). Buffett says Bitcoin is difficult to value because it's not a value-producing asset.[16] Stocks represent ownership of real capital and often provide a stream of dividend income; Bitcoin provides neither real capital nor income. Robert Shiller, the Nobel laureate economist who predicted the two biggest speculative markets in recent history (the tech-stock bubble of the 1990s and home prices in the 2000s), has also called Bitcoin a bubble.[17] Shiller even speculates on the possibility of competing cryptocurrencies replacing Bitcoin and driving its value to zero.[18]

Of course, bubbles are hard to spot while they are happening. Investors inevitably disagree about the "proper" value for an asset, and it's even harder to predict when bubbles will pop. Former Federal Reserve Chair Alan Greenspan suggested on December 5, 1996, that people were engaging in "irrational exuberance" by investing in overvalued technology stocks. His question seems applicable today: "But how do we know when irrational exuberance has unduly escalated asset values, which then become subject to unexpected and prolonged contractions?" After Greenspan posed this question, stock values continued to rise, at an even faster rate, for several more years. January 10, 2000, is generally seen as the price peak, before the tech-stock bubble burst and many investors lost considerable amounts of wealth. Only time will tell if the exuberance of Bitcoin buyers has been irrational.

Conclusion

Bitcoin has characteristics that allow it to function as money and make it a useful payment method. That is, it is relatively easy to transfer Bitcoin to other people or businesses, even for international transactions. However, other aspects of Bitcoin make it less desirable for everyday transactions, including security problems and volatile price fluctuations. The value of currency is determined by supply and demand. While the demand for Bitcoin has grown as people speculate on its future value, the supply of Bitcoin is set to grow at an inflexible, predetermined rate. As a result, as demand for Bitcoin has fluctuated, so has its price. This price volatility has undermined Bitcoin's ability to serve as a store of value. In contrast, governments often delegate the value of their official currencies to their central banks. For example, the Federal Reserve was founded to provide an "elastic currency" to ensure that it could adjust the money supply to provide price stability in the face of changing demand.[19]

Bitcoin's characteristics as a financial asset have drawn the interest of many and created the potential for financial loss. While the line between money and financial asset is not clear, people's actions often reveal the role the asset is playing in the economy. Lately, the excitement surrounding Bitcoin has been around buying it as a financial investment, not using it as money to buy goods and services. Weighing in on the issue, former Federal Reserve Chair Janet Yellen said that Bitcoin is "not a stable source of store of value, and it doesn't constitute legal tender"; in her judgement, Bitcoin "is a highly speculative asset."[20] ■

Notes

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[7] Yermack (2013, see footnote 2).

[8] Lee, Timothy. "A Brief History of Bitcoin Hacks and Frauds." Ars Technica, December 5, 2017; https://arstechnica.com/tech-policy/2017/12/a-brief-history-of-bitcoin-hacks-and-frauds/.

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[10] Yermack (2013, see footnote 2).

[11] Money may be in the form of currency, which pays no interest, or bank deposits, which typically pay fairly low interest on transaction accounts.

[12] Cochrane, John H. "Bitcoins and Bubbles." The Grumpy Economist, November 30, 2017; https://johnhcochrane.blogspot.com/2017/11/bitcoin-and-bubbles.html.

[13] Shell (2017, see footnote 5).

[14] Nicklaus, David. "To Investment Pros, Bitcoin Looks Like a Classic Bubble," *St. Louis Post-Dispatch*, December 5, 2017; http://www.stltoday.com/business/columns/david-nicklaus/to-investment-pros-bitcoin-looks-like-a-classic-bubble/article_1c9a7dc5-cd31-56cd-b5f9-21ceae8c5ec4.html.

[15] Oyedele, Akin. "Jamie Dimon: Bitcoin Is a Fraud That's 'Worse Than Tulip Bulbs.'" *Business Insider*, September 12, 2017; http://www.businessinsider.com/bitcoin-price-worse-than-tulip-bulbs-2017-9.

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[18] Shiller (2017, see footnote 6).

[19] Berentsen, Aleksander and Schär, Fabian. "A Short Introduction to the World of Cryptocurrencies." Federal Reserve Bank of St. Louis *Review*, 2018, *100*(1), pp. 1-16; https://doi.org/10.20955/r.2018.1-16.

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Name____ **Period**________

Federal Reserve Bank of St. Louis *Page One Economics*®:

"Bitcoin: Money or Financial Investment?"

After reading the article, complete the following:

1. Most people hold Bitcoin in
   A. an account at their local bank.
   B. the coin pouch in a wallet.
   C. a jar on their dresser.
   D. a virtual wallet.

2. Because Bitcoin can be used to buy goods and services, it serves as a
   A. medium of exchange.
   B. transfer payment.
   C. unit of account.
   D. store of value.

3. The value (in dollars) of Bitcoin fluctuated dramatically in 2017. For savers, this has diminished its function as a
   A. medium of exchange.
   B. transfer payment.
   C. unit of account.
   D. store of value.

4. The value (in dollars) of Bitcoin fluctuated dramatically in 2017. For people trying to quote the prices of goods and services, this has diminished its function as a
   A. medium of exchange.
   B. transfer payment.
   C. unit of account.
   D. store of value.

5. Bitcoin transactions often involve "middlemen" and transaction fees for people buying goods and services. This has diminished its function as a
   A. medium of exchange.
   B. transfer payment.
   C. unit of account.
   D. store of value.

6. Why is it hard to spot a financial bubble?

   A. It is difficult to determine the proper value of an asset.

   B. It is difficult to buy some assets.

   C. It is difficult to sell some assets.

   D. Bubbles often deflate quickly.

7. Given the way people have used Bitcoin to earn a profit, many people (including Janet Yellen) believe Bitcoin is being used primarily as

   A. a collectible, like antique coins to a coin collector.

   B. a financial investment.

   C. computer code.

   D. money.

8. What is the most important aspect of the "greater fool theory" of investing?

   A. You can diversify investment options to ensure all your eggs are not in a single basket.

   B. The "intrinsic" value of an asset is the most important aspect of investing.

   C. A fool and his money are soon parted—so keep it in a savings account.

   D. You have a "greater fool" willing to buy the asset at a higher price.