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Bitcoin: the virtual currency built on math, hope and hype

Bitcoin's sharp rise in value this year has many questioning whether the virtual currency is sustainable in the long term

By Jeremy Kirk | 18 December 13

The ascent this year of Bitcoin, a virtual currency forged through hardcore mathematics and buoyed by promises of financial liberation from banks, has been nothing short of mesmerizing.

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It is being increasingly embraced as a viable means of exchange and a valuable investment, free from meddling by central banks and what some view as untrustworthy financial systems.

A pseudonymous programmer calling himself Satoshi Nakamoto developed the Bitcoin system, releasing a [white paper](#) in 2008. The network, launched in early 2009, uses peer-to-peer software to transfer bitcoins.

A purely digital currency, a bitcoin is essentially a secret number that is transferred from one party to another using public key cryptography. "Miners," or people running high-end computers that verify the transactions, are awarded newly minted bitcoins for their efforts.

Bitcoins distance from the established financial system and lack of regulation so far is partly what has made it attractive. Virtual currency projects have largely failed over the years, but Bitcoin has so far defied predictions it would meet the same fate.

Bitcoin "seems to resonate quite deeply" with people who don't trust banks, even if the rosy predictions of its potential are baseless in standard economic theory, said Dick Bryan, a professor with the Department of Political Economy at the University of Sydney.

No one can create an accurate economic model for Bitcoin, and everyone who thinks they can give an explanation is posturing," Bryan said.

So far, Bitcoin's early supporters have been joyous: If you bought the virtual currency in early 2011 at US\$1 each instead of a new pair of \$600 snakeskin cowboy boots, you'd be up roughly \$600,000, depending on fluctuating exchange rates.

In its first-ever report on Bitcoin released Dec. 5, Bank of America Merrill Lynch predicted a value of \$1,300 per bitcoin if it becomes a force in e-commerce and money transfers.

It's easy to be dazzled by the numbers. And when proponents elevate Bitcoin from a clever system for transferring value to a potential replacement for government-issued currency, the sky appears to be the only limit.

"Buy bitcoins now. Take 5 percent of your net worth, and put it into Bitcoin," said Steve Kirsch[cq], CEO of OneID, a startup that provides encryption services to protect people's data, at the Future of Money and Technology conference in San Francisco in early December.

"You won't be sorry," Kirsch said. "I think for the next few years, any time you buy bitcoins and hold onto them, and then sell it, you'll make substantial amounts of money. You'll be so happy."

Bitcoin is occasionally called a Ponzi scheme, a type of scam where money from new investments is used to pay off a few early investors with the rest skimmed until the scheme goes bust. While Bitcoin is clearly not a Ponzi scheme, the frenzied get-in-now enthusiasm of late belies the fact that it is a very new and immature software experiment.

As a result, Bitcoin's buzz is offset by suspicion, doubt and, occasionally, contempt.

"I've always had the view that Bitcoin is a very beta project," said Evan Schmidt, who runs Buttcoin.org, a mocking blog. "It seems a lot of people are basically saying 'Get some bitcoins, hold onto them forever and you'll be rich!'"

He launched Buttcoin.org in mid-2011 after becoming fascinated by the community around Bitcoin -- libertarians, scammers, developers, hackers, early-adopters -- as well as its embrace by the Silk Road online drugs market.

"There were a lot of weird things that were going on," Schmidt said.

Buttcoin immortalizes Bitcoin supporters at their most hyperbolic moments, with heavy doses of sarcasm. The blog gets more than 15,000 hits a month, said Schmidt, who said he's fine with Bitcoin as a speculative play but doubtful of it as a currency.

It's clear Bitcoin could be positive for e-commerce. Once a bitcoin is sent, the transaction can't be reversed unless the receiver gives it back, similar to a cash deal. That's good for merchants, who may end up liable if someone uses another person's credit card to pay for goods and the money is reclaimed in what's known as a "chargeback."

In addition, consumers don't have to submit personal information when sending bitcoins, reducing opportunities for identity theft.

No major website was quicker to seize on bitcoins than the Silk Road marketplace, shut down in October by the FBI for facilitating contraband sales using the virtual currency as its only payment method.

For vendors of illegal goods, Bitcoin is close to perfect. "I think it is one of the best innovations coming from the modern computing era," said a former Silk Road methamphetamine and heroin dealer, via instant message. The dealer, who confirmed his

role in Silk Road, has a strong background in technology and said he'd place Bitcoin high on the list of the most important creations in the last few hundred years.

For the Silk Road, it also meant the site didn't have to interact with credit card companies or banks, which would have led to a swifter end.

Bitcoin transactions are considered final after six verifications are received from computers on its decentralized network. Since computers verify the transaction, people don't have to trust the person who sent them a bitcoin, or any other entity.

But on a broader level, people using Bitcoin must trust the software and ecosystem, said Toby Miller, a professor of journalism, media and cultural studies at the University of Cardiff in Wales.

You've got to have several kinds of trust involved when you don't have government or reserve banks or the banks themselves, Miller said.

That hasn't stopped some legitimate businesses from accepting and even keeping some bitcoins, even with its wild exchange rate.

David Maloney runs Honestbeef.com.au, a Web-based business from Casino, a small town in northern New South Wales in Australia. Honestbeef brokers orders between farmers and buyers seeking high-quality beef.

Maloney, a database programmer by trade who has watched Bitcoin since it started, said he doesn't accept credit cards, only interbank transfers, which carry no fee, and bitcoins.

But Bitcoin is much more than just a payments system, Maloney said.

Bitcoin's blockchain, a public ledger that records transactions, holds much potential for other kinds of cryptographic verification rather than just transferring bitcoins, he said.

Bitcoin's software protocol could accommodate escrow payments and contract arrangements, where trust is placed in the network rather than one entity.

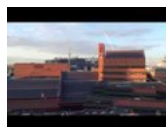
"I think it will be used as a currency, but not in a way anyone's imagined it," Maloney said.

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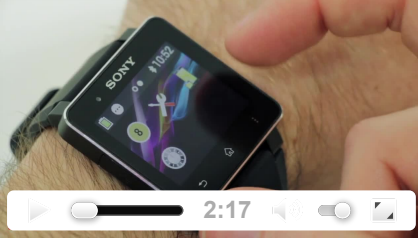
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