

Bitcoin: Is virtual the new reality?

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September 17, 2015

Introduction

Introduction to Bitcoin

- 1 Started in 2009: by Satoshi Nakamoto
- 2 Virtual currency
- 3 Decentralised
- 4 No governments involved
- 5 Based on trust networks

Money and a brief history

- What is money?
 - Store of value
 - Unit of account
 - Medium of exchange
- Gold, silver, and copper
- The gold standard
 - free flow of gold
 - market driven
 - market regulated

Paper money and it's problems

- Distrust for institutions
- Governments and central banks
- Monetary policy
- Inflation

Features and facts

- The technology
- Mining
- Transparency
- Anonymous transactions
- Cryptography
- No issuing authority
- Low/No transaction fees
- Mining is done on computers
- Fraction-able: one part in a hundred million ($1/100000000$)
- 24 hours working

- No single party controlling
- No one point of failure
- No corruption by power
- No inflation
- Attacks are difficult
- Double spending is very expensive

- How many Bitcoins?
 - 14.6 million BTC currently in the market
- Market Cap?
 - \$3.5 billion
- How much are left?
 - 6.4 million
- Bitcoin as an asset class?
 - Theoretical limit is 21 million
 - Will take another decade to mine the ones which are left

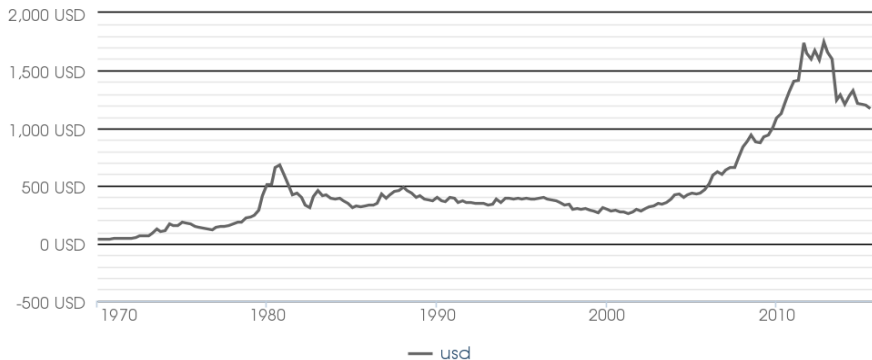
Bitcoin price performance



Gold price performance

Gold Price

Source: LBMA, Datastream, BullionDesk/FastMarkets, World Gold Council



Events

Important events

- Cyprus (2012-13)
 - Bailout of banks
 - Depositors were taxed and some of them lost their money
 - People were ready to invest in something safer than banks
- Interest from the government (2013)

A Justice Department official said Nov. 18 Bitcoins can be legal means of exchange at a U.S. Senate committee hearing, boosting prospects for wider acceptance of the virtual currency. Fed Chairman Ben S. Bernanke told the Senate committee the U.S. central bank has no plans to regulate the currency. –Bloomberg

- Start of hack attacks on service providers.
- Germany: In 2013, recognised it as unit of account and means of exchange.

- India: RBI advisory to be *cautious* while dealing in virtual currencies.
- Shutdown of Mt. Gox in Japan in 2014.
- Interest in Bitcoin technology by major banks in 2015.
- Silkroad shut down in 2013, person convicted and sentenced in 2015.
- itBit becomes the first licensed exchange in New York.
- Vermont state wants to make it a legal method for *record keeping*.

Silk road: some facts (source: Wikipedia)

- Launched in 2011.
- By 2012, around 10,000 products listed by vendors.
- \$15*million* in sales in 5 months of 2012, and 1.2 million transactions
- By 2013, around 14,000 listings.
- Supported seller reviews worldwide.
- Covered more than 10 countries.
- Hedging mechanism to protect against volatility.

Applications

Payments

- Easy to set up (via service providers)
- Each transaction is verified
- No middle men
- All transactions are mutually consistent
- Transaction logs are public
- Public keys (identity) is protected
- Irreversible transactions
- No need for bank account
- For low income groups

- In capital markets
- Trading shares: physical shares are slow
- Foreign currency trading
- Transparency and security

- A new framework for payments and settlements.
- 9 major banks investing, including Goldman Sachs and Barclays.
- For faster, efficient, and transparent operations.
- Provides additional security, lower error rates, and cost reductions.
- Proposed first use in issuing commercial paper.

- Recording transactions (downloads)
- Distributing royalty

- Chip business
- Venture Capitalists
- Exchange business
- Shopkeepers, big stores
- Law and contracting
- Prepaid airtime
- To exchange vows!!

Considerations

As an investment?

- 40-50 exchanges in operation, only 4-5 with good liquidity
- Lot of speculation
- Computationally very intensive
- Debates about power consumption
- More than supercomputers
- Security challenges
 - Hacking
 - Price volatility
 - Reliability

Regulatory issues

- Silk road
- Hacking attacks
- Losing money is trivial
- Money laundering
- Security industry needs to think
- Multiple virtual currencies
- KYC issues
- People should know the risks
- The courts can't interfere
- No underlying asset – no claim
- Other issues: money transmission laws

Questions?

Thank you
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