Bitcoin: Virtual Currency, Real Risks ... and Real Opportunities

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Overview

- What Bitcoin Is and How It Works … *in English*
- Advantages of Bitcoin
- Bitcoin’s Growing Role in the Global Economy
- What Laws Govern Bitcoin?
- Risks/Challenges to Future Growth
- What Is Bitcoin’s Future?
What Bitcoin Is and How It Works … in English
What is Bitcoin?
What is Bitcoin?

• Open source payment system created by Satoshi Nakamoto in 2009
• Bitcoin is an Internet protocol for the peer-to-peer exchange of value on the Internet in a decentralized and distributed fashion. Bitcoin removes counterparty risk from transactions.
• Bitcoin = form of digital money that is held electronically
• Transactions are recorded on a distributed public ledger called a block chain
• The blockchain is a public record of all bitcoin transactions, secured by a global network of computers (often referred to as miners)
• Miners are issued new bitcoin in the form of a “block reward” for their efforts in processing transactions and securing the network.
What is Bitcoin?

• Bitcoin is a decentralized currency

  – Centralized virtual currencies have a centralized repository and a single administrator
    • Example -- Liberty Reserve – investigated by DOJ and FinCEN

  – Decentralized virtual currencies have no central repository and no single administrator
    • Value is electronically transmitted between parties without an intermediary

• Bitcoin is a “cryptocurrency”
  • Bitcoin relies on cryptographic software protocols to generate the currency and validate transactions
How Does Bitcoin Work?

1. **Mining**
   Bitcoins are created and first enter into circulation through a process known as mining. Bitcoin miners install software on their computers, which they use to solve complex math problems that verify transactions for the bitcoin network. The miner or mining pool that successfully solves the problems is rewarded with newly created bitcoins.

2. **Addresses and Wallets**
   Bill’s bitcoin balances are associated with his bitcoin addresses (long strings of numbers and letters). Bill stores his bitcoin addresses in his virtual wallet (a program that saves bitcoin addresses on a user’s computer or other data storage device, or online via a wallet service provided by an exchange or third party virtual wallet provider). Bitcoin users can have multiple wallets, and each wallet can hold multiple bitcoin addresses.

3. **Making a Peer-to-Peer Purchase with Bitcoins**
   Bill wants to buy a t-shirt from Carol, who accepts bitcoins. To conduct the transaction, Carol provides her bitcoin address to Bill, and Bill authorizes the transaction with his private key (essentially a secret code that proves Bill’s control over his bitcoin address).

4. **Verifying the Transaction**
   Bill and Carol's transaction is bundled into blocks with other transactions and verified by bitcoin miners. Within minutes, Bill’s bitcoins are assigned to Carol’s address and the transaction is registered in a public ledger called the “blockchain.” The miner or mining pool that successfully solves the math problems to verify the block containing Bill and Carol’s transaction is rewarded with newly created bitcoins.

Source: GAG.
How Does Bitcoin Work?
Advantages of Bitcoin
The Appeal of Bitcoin

- Benefits to both consumers and merchants
- Cost effective way to store, spend and receive digital money
- Leverages Internet technology to enhance the payment system
- Radical lowering of costs and increases speed of retail payments
- Improves security and privacy used for payments; reduces fraud
- Lowers the cost and complexity of cross-border transactions
- Opportunity to move people trapped in a cash-based informal economy to a globally connected digital economy
- Bitcoin protocol is “extensible” and innovators are creating efficiencies in non-financial transactions
Bitcoin’s Growing Role in the Global Economy
Growth of Bitcoin in the Global Economy

- Retail Sector
- Other Sectors
- Bitcoin Exchanges
- Bitcoin ATMs
Innovation in Bitcoin

- Bitcoin is an open-source software project
  - Bitcoin is governed by consensus among Consumers, Miners and Software Engineers.

- The predominant uses of the bitcoin protocol today are:
  - As a medium of exchange and payment network
  - As a store of value
  - Built in scripting for advanced payment services

- Experimental uses include:
  - Property management
  - Identity verification
  - Notary and escrow services
Bitcoin Ecosystem

Wave 3
Innovation

p2p Payments

Collateralized
Payment

Conditional
Payments

Wave 2
Infrastructure

Exchange
Services

Security
and Storage

Consumer
Services

Merchant
Services

Mining

Wave 1
Pioneers

Bitcoin Protocol (v 0.9.2)
What Laws Govern Bitcoin?
What Laws Govern Bitcoin?

- Regulatory Treatment in the U.S.
  - Federal
  - State
- Regulatory Treatment Overseas
What Laws Govern Bitcoin?

• Federal
  • FinCEN
    • March 2013 guidance (supplemented in January 2014):
      • Administrators – subject to BSA/AML
      • Exchangers – subject to BSA/AML
      • Users (generally includes buyers/sellers of goods and services, miners for own use, investors) -- not subject to BSA/AML
        • But may depend on how seller conducts transactions – if directs customer to pay bitcoin price to third party rather than directly to seller, may risk being treated as exchanger
    • Open Issues – Travel rule, OFAC
What Laws Govern Bitcoin?

• IRS
  • March 2014 guidance -- Bitcoin is “property”, not currency, for tax purposes
    – Subject to capital gains taxes
    – Wages paid in bitcoins subject to withholding
    – Reporting requirements for payments of $600 or more
    – Temporary relief from FBAR filings
  • Implications for miners, users and exchanges
  • How will this impact everyday use?
    – Challenge of tracking taxes on increase in value of bitcoins you spend
    – Reporting requirements – impact on perceived anonymity
  • Potential rules from SEC, CFTC, CFPB
What Laws Govern Bitcoin?

• **States**
  - CSBS Emerging Payments Task Force
  - Some progress in key states
  - “BitLicense” proposal introduced by NY on 7/18/14 (45 day comment period from 7/23)
What Laws Govern Bitcoin?

• **International**
  • EU reticent to take action (See recent EBA Report)
  • Have seen government warnings and limited tax guidance
    • China
    • Russia
    • Japan
    • Others
  • Some recent progress (Canada, FATF, FCA)
What Laws Govern Bitcoin?

- Bottom line: primary area of regulation relates to money transmitters (MSB)
  - Must register with FinCEN
  - Apply for state licenses in multiple jurisdictions
  - Register and receive license in applicable foreign jurisdiction
Risks/Challenges to Future Growth
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- Legal/Regulatory
- Commercial/Financial
- Security
- Enforcement
Risks/Challenges to Future Growth

- **Legal/Regulatory**
  - Uncertain regulatory environment makes it difficult to operate in certain jurisdictions, evaluate new products and services and form strategic partnerships (banks, audit firms, etc.)
  - Difficult state licensing process
  - Technology associated with Bitcoin and its uses are not always aligned with regulations (gaps need to be addressed)
Risks/Challenges to Future Growth

- Commercial/Financial
  - Volatility in price
    - No FDIC insurance
    - Other risks from drop in price if holding large quantities
    - For sellers of goods/services, important to lock in exchange rate and do immediate exchange
    - For retailers, refund/exchange policies can have impact on bottom line and on customer relations
      - In-store credits (customer bears risk of less favorable exchange rate)
      - Refunds at then-prevailing rate?
      - Other approaches?
    - Lack of liquidity (exchange risk)
  - Infrastructure providers have difficulty gaining banking relationships and integrating into traditional systems
Risks/Challenges to Future Growth

- Privacy/Security
  - Risk of hacking/theft or loss of bitcoins
  - Risk of fraud -- transactions can’t be canceled or reversed
  - Risk from control of network (51% attack)
  - Many privacy/security risks similar to risks involving other forms of personal information
    - credit card numbers vs. alphanumeric text
Risks/Challenges to Future Growth

- Enforcement
  - E-Gold
  - Liberty Reserve
  - Mt. Gox
  - Silk Road
  - U.S. v. Faiella and Shrem
Risks/Challenges to Future Growth

What is the focus of law enforcement/regulators?

- Financial crimes –
  - Use of new technology by criminals
  - Anonymity/traceability → investigative challenges
- Security risks
- Consumer protection – possible action by FTC, State AGs
- Tax Issues
What Is Bitcoin’s Future?
Keys to Overcoming Challenges

- Development of best practices for exchanges – greater stability, legitimacy

- Open communication with law enforcement and regulators

- Clear, consistent treatment by regulators
  - What will be the impact of regulation?
    - Greater legitimacy and stability?
    - Impact on ease of use, attractiveness to individuals?
To Do List for Bitcoin Businesses

- AML Compliance Program
  - Are you covered by the money transmitter definitions?
    - If so, must comply with FinCEN rules and applicable state laws/regs
    - Know where your customers are – are you in compliance with laws of applicable jurisdictions?
  - Do you have an AML program in place?
    - Know Your Customer procedures
    - Transaction monitoring
    - SARs
To Do List for Bitcoin Businesses

- Similar to guidance for other types of businesses collecting or processing PII or financial information

- Security Protocols
  - Online and Offline (cold storage) security
  - Vendor management
  - Security audits and testing
  - Internal controls and dual authorization
  - Employee background checks
  - Insurance of assets
To Do List for Bitcoin Businesses

- Consumer Protection
  - User agreements that clearly explain risks
  - Clear, transparent disclosures to consumers, including verifying transactions
  - Customer service, complaint/dispute resolution process
  - Merchants need clear protocols for returns/refunds/exchanges
What Is Bitcoin’s Future?
Questions?

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