Regulation of Virtual Currency & Blockchains

Presented by
Reuben Grinberg
Jai Massari

November 5, 2015
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Investment and Interest
Cumulative VC Investment in Virtual Currency & Blockchain Tech ($millions)

Sources: CoinDesk.com, State of Bitcoin Q2 2015, State of Bitcoin Q3 2015
Investment and Interest

Interest over time

bitcoin
Search term

blockchain
Search term

fintech
Search term

Source: Google Trends

Bitcoin Market Price (USD)

high: $1,151 in December 2013

November 4, 2015:
$437.05
Market Cap: $6.5 bn

Data from blockchain.info
Investment and Interest
What is it?
What is Bitcoin?

- **Irredeemable artificial commodity money**
  - Limited total supply (21 million Bitcoins)
  - Sendable from person-to-person over the internet, without a financial intermediary, largely for free, irreversibly, in one hour
  - Not backed by any government, corporation, or commodity or asset
  - Pseudoanonymous, but all transactions effected “on network” are public, as are all “on network” accounts

- **Worth of 1 BTC gauged by supply / demand on exchanges**
  - Based on expectations about current and future uses as:
    - An investment (i.e., store of value)
    - Payment network
    - Other uses (electronic contracts, encoding ownership of assets, etc)
  - Takes into account many risks (regulation, hacks, competing products)
### What is Bitcoin?

**PROS AND CONS**

<table>
<thead>
<tr>
<th>Potential Benefits</th>
<th>Potential Risks/Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Fast</td>
<td>• Volatile</td>
</tr>
<tr>
<td>• Low-cost or free transfer</td>
<td>• No government backing</td>
</tr>
<tr>
<td>• Can be trustless or without intermediaries</td>
<td>• Deflationary</td>
</tr>
<tr>
<td>• Irrevocable</td>
<td>• Can facilitate money laundering, crime</td>
</tr>
<tr>
<td>• Aligns with political beliefs of some (not inflationary, not controlled by central bank)</td>
<td>• Not widely accepted (but &gt;100k merchants)</td>
</tr>
<tr>
<td>• Pseudoanonymous</td>
<td>• Negligence / malfeasance by service providers</td>
</tr>
<tr>
<td>• Transfer over internet by anyone with computer or smart phone</td>
<td>• No well defined governance process</td>
</tr>
<tr>
<td>• Resistant to censorship</td>
<td>• Resource intensive</td>
</tr>
<tr>
<td></td>
<td>• Consumer unfriendly without intermediaries (irrevocable, risky to hold)</td>
</tr>
<tr>
<td></td>
<td>• “51% Attack”</td>
</tr>
<tr>
<td></td>
<td>• Regulatory Crackdown</td>
</tr>
<tr>
<td></td>
<td>• Pseudoanonymous</td>
</tr>
<tr>
<td></td>
<td>• Can’t support high # transactions</td>
</tr>
<tr>
<td></td>
<td>• Not fast enough</td>
</tr>
</tbody>
</table>

Success does not have to mean individuals in developed countries using it in day-to-day life.
Traditional Settlement of Funds vs. Virtual Currencies

Traditional Settlement of Funds

Centralized Leger

Clearing House

Virtual Currencies

Distributed Ledger

See: Santander, Oliver Wyman and anthemis group, The Fintech 2.0 Paper: rebooting financial services
Settlement of Virtual Currency Transactions

Distributed Ledger = The Blockchain

- $\text{t}^0$
- $\text{t}^1$
- $\text{t}^2$
- $\text{t}^3$
What is Blockchain?

- Money = one use for distributed ledger technology

- Can be used for so much more…

  - Securities
  - Loans
  - Letters of Credit
  - Land Titles
  - Personal Identification
Colored Coins

How does this work for things that are not Bitcoin?
Nominal amounts of Bitcoin tagged with **metadata**. This process is called coloring.
### Public, Private, and Hybrid Blockchains

<table>
<thead>
<tr>
<th>Private Blockchains</th>
<th>Hybrid Blockchains</th>
<th>Public Blockchains</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Only the organization controlling the blockchain can write to the ledger and validate</td>
<td>- A set of pre-selected or “permissioned” nodes can write to the ledger and validate</td>
<td>- Anyone can access the ledger to write and participate in validating transactions, i.e. the consensus process</td>
</tr>
<tr>
<td>- Transactions can be kept private</td>
<td>- “Partially decentralized”</td>
<td>- Fully decentralized</td>
</tr>
<tr>
<td>- No risk of attack</td>
<td></td>
<td>- Anyone can see transactions in the ledger</td>
</tr>
<tr>
<td>- Cheaper transactions with less nodes required to validate</td>
<td></td>
<td>- Users protected from changes by developers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Network effects</td>
</tr>
</tbody>
</table>

See: CoinDesk, *State of Bitcoin Q3 2015*
## Future of Settlement

“Our analysis suggests that distributed ledger technology could reduce banks’ infrastructure costs attributable to cross-border payments, securities trading and regulatory compliance by between $15-20 billion per annum by 2022.”

Santander, Oliver Wyman and anthemis group, *The Fintech 2.0 Paper*

<table>
<thead>
<tr>
<th>Potential Pros</th>
<th>Potential Cons</th>
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</thead>
<tbody>
<tr>
<td>Lower cost</td>
<td>Regulatory uncertainty</td>
</tr>
<tr>
<td>Fewer intermediaries</td>
<td>Challenge of applying regulations designed for centralized custody and settlement to distributed processes</td>
</tr>
<tr>
<td>Eliminate / reduce back-office reconciliation</td>
<td>Short term complexity until standards normalize</td>
</tr>
<tr>
<td>Reduce settlement risk</td>
<td></td>
</tr>
<tr>
<td>Fast (t3 → t2 → t0)</td>
<td></td>
</tr>
<tr>
<td>Increased innovation</td>
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</table>
Industry Trends
Various Initiatives Using Blockchains

- Bitcoin, Litecoin and other “Altcoins”
- Ripple, Earthport
- Digital Asset Holdings
- Factom
- Corporate Debt, Treasury Repos, and Other Securities
- Chain
- Everledger, Real Asset Co.
- Private Company Shares
- Diamonds, Gold
- Land Titles
- Ethereum, Augur
- Corporate Debt, Treasury Repos, and Other Securities
- Tierion
- Smart Contracts
- Data Notarization
The Regulation of Virtual Currency
## Regulation of Virtual Currency

<table>
<thead>
<tr>
<th>Regulatory</th>
<th>Federal</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prudential</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AML</td>
<td>FinCEN</td>
<td>Money transmitter regimes</td>
</tr>
<tr>
<td>Consumer Protection</td>
<td>CFPB</td>
<td>Virtual currency specific regimes (e.g. NYDFS BitLicense; CSBS Model Framework, ULC draft statute)</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tax</strong></td>
<td>IRS</td>
<td>State tax agencies</td>
</tr>
<tr>
<td><strong>Market</strong></td>
<td>SEC, CFTC</td>
<td>State regulators</td>
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### Enforcement

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<tr>
<th></th>
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<tbody>
<tr>
<td><strong>Ponzi Schemes</strong></td>
<td>SEC v. Trendon T. Shavers</td>
</tr>
<tr>
<td><strong>Money Laundering</strong></td>
<td>Silk Road / Silk Road 2.0; U.S. v. Ross William Ulbricht U.S. v. Robert M. Faiella and Charlie Shrem</td>
</tr>
<tr>
<td><strong>Failure to Register, Faulty AML</strong></td>
<td>Ripple ($700,000 penalty)</td>
</tr>
<tr>
<td><strong>Unregistered Offerings / Exchanges</strong></td>
<td>Erik T. Voorhees BTC Trading, Corp. and Ethan Burnside Coinflip / Derivabit</td>
</tr>
<tr>
<td><strong>Deceptive Marketing</strong></td>
<td>FTC v. BF Labs, Inc., d/b/a Butterfly Labs</td>
</tr>
</tbody>
</table>
### Regulation of Virtual Currency

#### OVERVIEW OF MONEY-BASED REGIMES

<table>
<thead>
<tr>
<th>FinCEN</th>
<th>Money Services Business</th>
<th>Any person in the business of exchanging virtual currency for real currency, funds, or other virtual currency is a money transmitter and must register as an MSB.</th>
</tr>
</thead>
<tbody>
<tr>
<td>States</td>
<td>Money Transmitter</td>
<td>Transmitting money or value</td>
</tr>
<tr>
<td></td>
<td>Virtual Currency Specific (NY BitLicense, ULC Draft Statute)</td>
<td>Engaged in Virtual Currency Business Activity in the State</td>
</tr>
</tbody>
</table>

**General Requirements:**
- AML / KYC compliance program
- CTR / SARs
- Recordkeeping
- Consumer protection
- Cybersecurity
- Capital / Bonding

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*FIN-2013-G001 (March 18, 2013).*

Some exclusions for banks and other regulated entities.
Regulation of Virtual Currency
VIRTUAL CURRENCY BUSINESS ACTIVITY (NY BITLICENSE)

1. Receiving virtual currency for transmission or transmitting it
2. Holding virtual currency for others
3. Buying and selling virtual currency as a customer business
4. Exchange services as a customer business
5. Controlling, administering, or issuing virtual currency

Exempt from BitLicense
- Certain entities chartered under New York Banking Law
- Mere merchants, consumers, investors
- Mere software developers/distributors
- “...except where the transaction is undertaken for non-financial purposes and does not involve the transfer of more than a nominal amount of Virtual Currency” (applies only to 1st prong)

For more detail, see our visual memo on the BitLicense rule on bitcoin-reg.com
**Regulation of Virtual Currency**

**STATE MONEY TRANSMITTER LAWS**

- 💰 **coinbase** is registered as a money transmitter (or similar) in 25 states plus Puerto Rico.

- Some states (e.g., TX, KS and WA) have put out guidance describing treatment of virtual currencies under their money transmitter regimes.

- **CA** recently repealed a provision of state law that prohibited the use of anything but the lawful money of the U.S., legalizing the use of Bitcoin in the state.

- Some states have determined that transactions solely involving virtual currency do not constitute money transmission.
In its first Bitcoin enforcement action in September 2015 the CFTC confirmed that “Bitcoin and other virtual currencies” are commodities.

“Virtual Currency” in turn was defined as “a digital representation of value that functions as a medium of exchange, a unit of account, and/or a store of value, but does not have legal tender status in any jurisdiction.”

This action makes clear that derivatives on virtual currencies are subject to regulation under the Commodity Exchange Act.

In addition, intermediaries that facilitate transactions in, operate trading platforms for, or provide advice about virtual currency derivatives may be subject to registration with and regulation by the CFTC.
Regulation of Virtual Currency

SEC

<table>
<thead>
<tr>
<th>SEC Jurisdiction</th>
<th>Investment Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>The SEC has jurisdiction over securities.</td>
<td>Investment vehicles that hold Bitcoins and offer interests in the vehicle are offering securities.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bitcoin is not a “Security”</th>
<th>Enforcement Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not a “note,” “stock” or “investment contract” – lacks important characteristics of these things.</td>
<td>Recent actions include charges brought against Trendon T. Shavers, Erik Voorhees and Ethan Burnside.</td>
</tr>
<tr>
<td>No dividends; no right to vote in proportion of ownership; and no promise to pay sum of money (See R. Grinberg, Bitcoin: An Innovative Alternative Digital Currency, 4 Hastings Sci. &amp; Tech. L.J. 160, (2011)).</td>
<td>The SEC has also issued an investor warning on the topic of Bitcoin and virtual currency-related investments.</td>
</tr>
</tbody>
</table>
The Regulation of Blockchain
Overstock.com S-3:

“We have collaborated with a registered ATS to build a technology platform for trading digital securities, which is now fully operational. This trading platform uses the same distributed ledger technology with the same algorithm-based consensus approach as that used for virtual currency.

Digital securities are designed to enable trades to settle immediately or nearly immediately . . .

Digital securities will be issued, available for purchase and traded exclusively on a specific trading system that is registered with the SEC as an alternative trading system, or ATS.”
An “alternative trading system” means:

- any organization, association, person, group of persons, or system “That constitutes, maintains, or provides a market place or facilities for bringing together purchasers and sellers of securities or for otherwise performing with respect to securities the functions commonly performed by a stock exchange”

OR

- “That does not (i) set rules governing the conduct of subscribers other than the conduct of such subscribers' trading on [the ATS]; or (ii) discipline subscribers other than by exclusion from trading”

17 CFR § 242.300(a)(1)-(2).
With limited exceptions, an ATS must:

- Register as a **broker-dealer**
- OR
- Register as an **exchange**

17 CFR § 242.301(a).

**Broker Dealer Requirements:**

- Registration on Form BD
- FINRA membership (for most broker-dealers)
- Capital requirements
- Annual audit and financial reports
- Use of customer assets and reserve account
- Compliance with margin regulations
- Trade settlement
- Maintenance of books and records
- Trade confirmations
- Reg NMS rules (equity trading) and Reg SHO rules (short sales)
- Anti-fraud and anti-manipulation rules
- Regulatory reporting
Clearing Agency

An “clearing agency” means, inter alia:

any person

“who acts as an intermediary in making payments or deliveries or both in connection with transactions in securities”

OR

“who . . . otherwise permits or facilitates the settlement of securities transactions”

SEA § 3(a)(23)(A).

Clearing agencies are subject to registration and other extensive regulatory requirements.
An “transfer agent” means:

any person who engages on behalf of an issuer of securities or on behalf of itself as an issuer of securities in, inter alia:

“transferring record ownership of securities by bookkeeping entry without physical issuance of securities certificates”

SEA § 3(a)(25).

Transfer agents are subject to registration and other regulatory requirements.
Investment Company Act of 1940:

Applies to an entity that either

- “is” or “holds itself out to the public as being” primarily in the business of investing, reinvesting or trading in securities

Or

- flunks numerical test: generally, if 40% of a company’s assets come from “investment securities”

Exemptions:

- Banks, insurances companies, broker-dealers, finance companies
- Private funds (Sections 3(c)(1) and (3)(c)(7))
Investment Advisers Act of 1940:

 Applies to anyone who

- For compensation:
  - Engages in the business of advising others as to the value of securities or on investing in/purchasing/selling securities
  - As part of a regular business, issues or promulgates analyses or reports concerning securities

Exemptions (generally):

- Banks, broker-dealers (where advice is solely incidental to broker-dealer business), news publishers, credit rating agencies
What About Other Assets?

**Blockchains used to transfer:**

- Mortgages
- Loans
- Car Titles

All subject to various state regulatory regimes.
Virtual Currency, Blockchain and Payment Systems

Experience

Davis Polk has advised several clients on the evolving regulatory treatment of virtual currencies and blockchain. Examples include:

- Advising banking organizations on potential banking relationships with and investments into Bitcoin companies and consortiums.
- Advising a leading Bitcoin investment vehicle and its sponsor.
- Advising U.S. and foreign Bitcoin exchanges on structuring activities to fall outside CFTC jurisdiction.
- Advising a U.S. Bitcoin mining company on relevant regulatory law and structuring investments.
- Providing counsel to a creator of a cryptocurrency on regulatory and legal obligations and risks.
- Our lawyers have analyzed Bitcoin from the perspective of securities law, commodities / derivatives law, and insolvency law as well as BSA/AML/OFAC.
- A Financial Institutions Group associate, Reuben Grinberg, wrote the first widely cited academic and legal review of Bitcoin and has written extensively on the topic and been quoted frequently in the media. Before joining Davis Polk, Mr. Grinberg programmed trading server software for Bridgewater Associates.
- Other members of our team have experience as Bitcoin entrepreneurs and have worked on one of the SEC’s first reviews of the applicability of existing securities laws to Bitcoin and Bitcoin-denominated investment vehicles.
- Our experience with Bitcoin and other cryptocurrencies is part of our broader experience at the leading edge of developments in financial markets and in advising clients on the creation and use of new financial products and markets.

A Long History at the Leading Edge of Payment Systems

Members of our team have:

- Represented companies such as Visa, Green Dot, GCPS (a consortium of six major international banks created to provide a global payments solution for multinational corporations), and CheckFree that have required us to deal with cutting edge technological, regulatory and payments issues.
- Worked closely with the FDIC, Federal Reserve, OFAC, FinCEN, state money transmitter regulators and international regulatory bodies as they have tried to come to grips with these technologies.
- Educated both regulators and legislators about looming issues.
- Assisted our clients in developing a robust compliance environment.

Davis Polk
Davis Polk “BitLicense” Visual Memo

Praise for our proposed rule memo: "This is the best and most comprehensive overview of the BitLicense, its provisions, its pitfalls, and how it affects the various actors in the bitcoin ecosystem. Thanks to Davis Polk for sharing. (Of course, only lawyers could break down 40 pages of regulations into a 43 page presentation...but it’s worth the read nevertheless.)"

-Ryan Selkis, Most Insightful Journalist, Blockchain Awards presented by Bitcoin Foundation and Blockchain.info

Bitcoin-Reg.com

Bitcoin-Reg.com is Davis Polk’s virtual currency and blockchain resources website, tracking the latest developments in this fast-moving area.

Davis Polk on CFTC’s First Bitcoin Enforcement Action

Davis Polk Memo Summarizing BitLicense Comment Letters
Reuben Grinberg
ASSOCIATE

Mr. Grinberg is an associate in Davis Polk’s Financial Institutions Group. His practice focuses on bank regulatory advice, including Dodd-Frank Act regulatory implementation, the preparation of living wills, Basel III capital and liquidity, Volcker Rule, and financial institution capital markets and M&A transactions.

In addition, Mr. Grinberg wrote the first widely read and cited academic paper on Bitcoin, and is often cited in the media as an expert on digital currencies. He advises clients on the novel regulatory issues relating to Bitcoin and digital currency-based businesses. Before joining Davis Polk, Mr. Grinberg programmed trading server software for Bridgewater Associates, one of the world’s largest hedge funds.

PROFESSIONAL HISTORY
- Associate, 2011-present

ADMISSIONS
- State of New York

EDUCATION
- B.S., Computer Science, Yale College, 2005
- M.Sc., Computer Science, University of Texas at Austin, 2007
- J.D., Yale Law School, 2011
  - Executive Editor, Yale Law & Policy Review

OF NOTE – BITCOIN
- Author of *Bitcoin: Today Techies, Tomorrow the World?*, Milken Institute Review
- Author of *The Failure of Mt. Gox and Other Recent Bitcoin Catastrophes: Why Banks Should Care*, CLS Blue Sky Blog
- Interviewed by Bloomberg TV, NY Times, WSJ Law Blog, Fiscal Times, among other publications
Ms. Massari is an associate in Davis Polk’s Financial Institutions Group and the Trading and Markets practice. She advises major global banks, asset managers, and corporations on the requirements, impact and implementation of the Dodd-Frank financial reform legislation. In this area, her practice focuses on derivatives regulation, the Volcker Rule and systemic risk regulation. She frequently works with industry organizations in connection with advocacy efforts on legislative and regulatory proposals.

**WORK HIGHLIGHTS**

Ms. Massari has been active in providing regulatory advice to:

- Financial institutions and trading platforms on new swap regulations, including registration requirements, cross-border and regulatory impacts
- Asset managers and end-users on requirements on swap requirements under new swap regulations
- Financial institutions on the proprietary trading and covered funds provisions of the Volcker Rule, including development of the Davis Polk Volcker Portal
- Trade organizations in connection with legislative and regulatory advocacy

**OF NOTE**

- Discussed in *The Economist*

PROFESSIONAL HISTORY
- Davis Polk since 2011
- Willkie Farr & Gallagher LLP, 2007-2011

ADMISSIONS
- District of Columbia
- State of California

EDUCATION
- B.A., Chemistry, Cornell University, 2000
- J.D., Duke University School of Law, 2007
  - cum laude
  - Executive Editor, Law & Contemporary Problems