

# Cryptocurrency

To Be or Not to Be a Security

November 2, 2017

# Introduction

---

- Distributed Ledger Technology (i.e. blockchain)
- Bitcoin introduced blockchain technology to the world (2009)
- Bitcoin also introduced first cryptocurrency (2009)
- State laws authorizing use of blockchain technology for recordkeeping (e.g. AZ, DE)

# Agenda

---

- I. Blockchain Overview
- II. Cryptocurrency
- III. The Cryptocurrency Craze
- IV. The SEC's Take on Cryptocurrency
- V. How to Move Forward



# Blockchain Overview

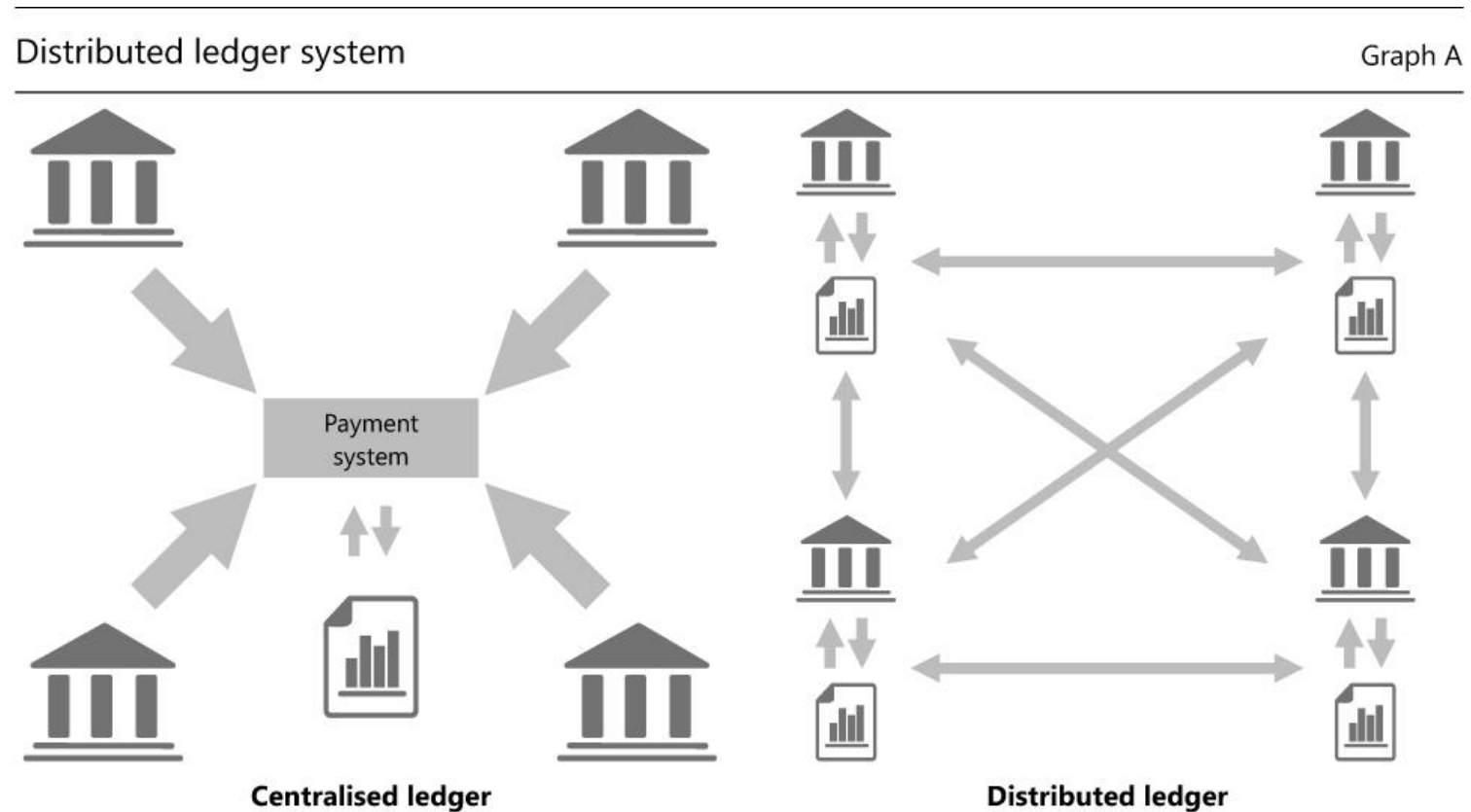
# Definition

---

Distributed Ledger Technology (“Blockchain”):

“[A]n account book that is maintained on an unconnected network of computers around the world, accessible to multiple users at once, that stores unalterable data. It can be programmed to accept verified data and take a specified action in response to someone else’s action. Because it is encrypted, it is very difficult to attack or corrupt. In other words, the blockchain is a trusted intermediary that can keep track of everything you exchange with someone else.”

# Centralized Ledger v. Distributed Ledger



Source: Santander InnoVentures (2015).

© Bank for International Settlements

# Bitcoin: The First Blockchain

---

- Transfer of currency from person to person without an intermediary
- Bitcoin = blockchain technology
- bitcoin = cryptocurrency
- Giant excel spreadsheet – updated every few minutes – new additions called “blocks” – blocks strung together in “chain”
- Everyone can maintain own copy of the spreadsheet (key to alteration prevention)

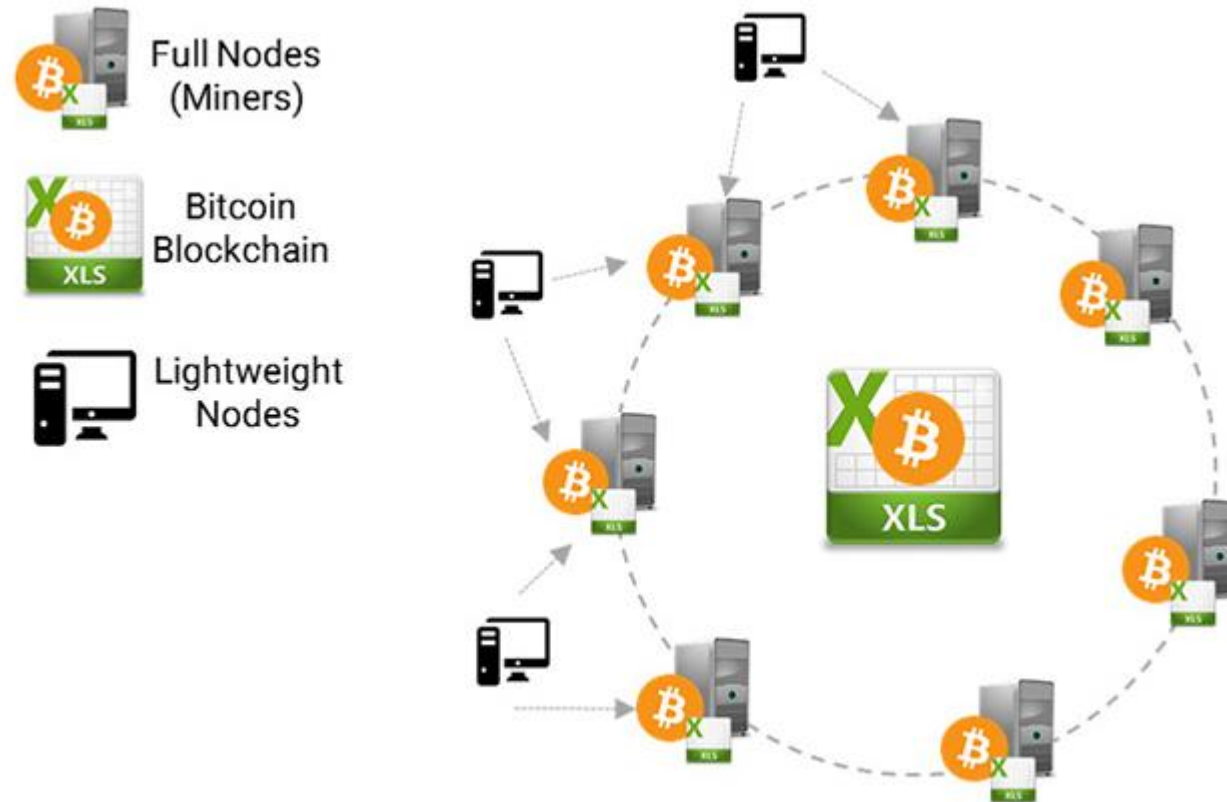
# How blockchain is maintained

---

- People who maintain the spreadsheet = “nodes” or “miners”
- Two types of nodes:
  - Full nodes = maintain entire blockchain ledger
  - Lightweight nodes = only maintains ledger for a handful of transactions
- Lightweight nodes communicate with full nodes when ready to complete transactions



# How blockchain is maintained

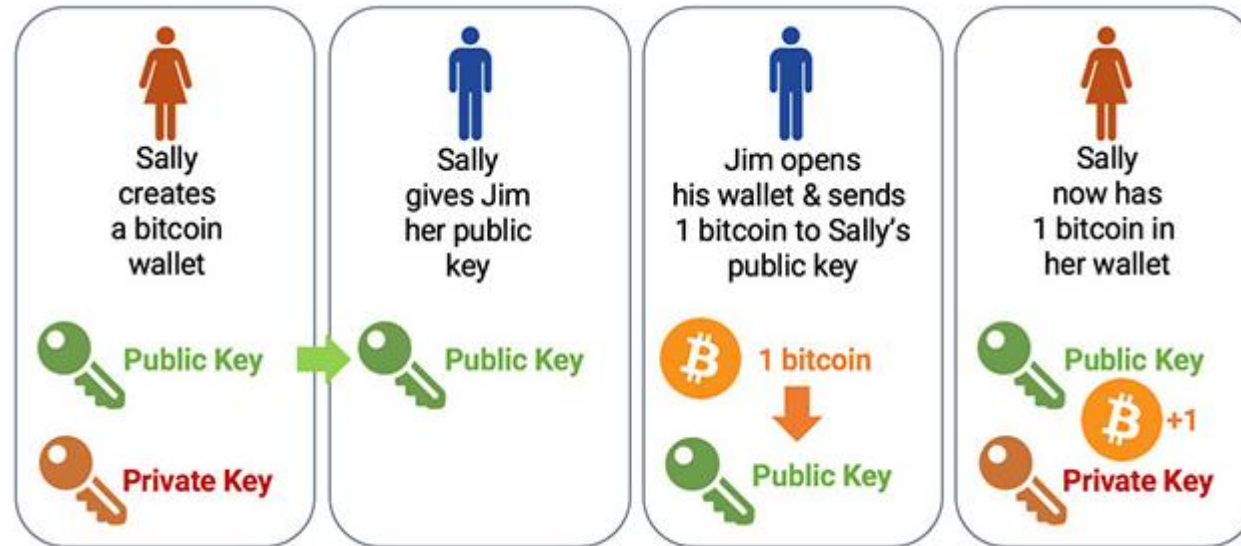


# How Nodes Process Transactions

---

- Jim and Sally
- Jim wants to give Sally 1 bitcoin
- Account = bitcoin wallet
- Keys:
  - Public key = public avatar (i.e. username)
  - Private key = private access key (i.e. password)
- Jim needs Sally's public key

# How Nodes Process Transactions

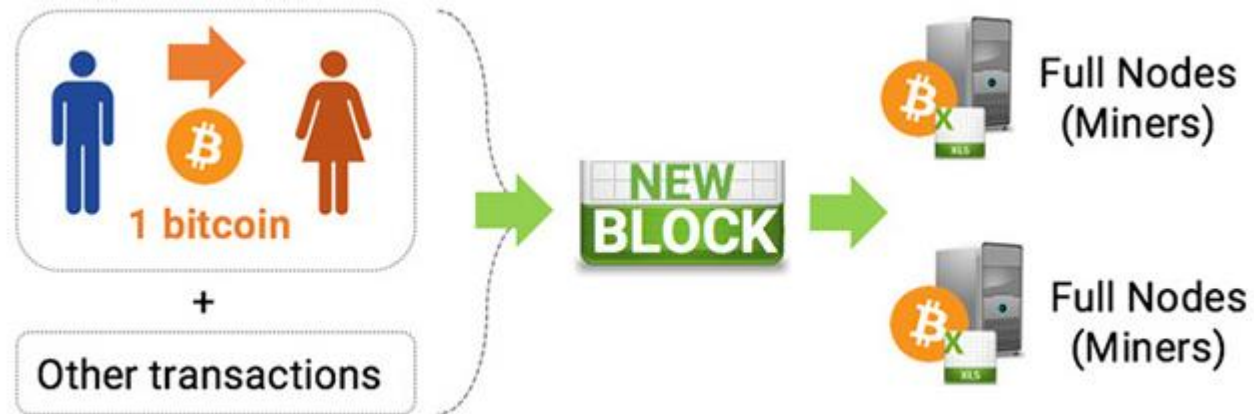


# How Nodes Process Transactions

---

- What happened behind the scenes?
- Lightweight node verifies information
  - Jim has enough bitcoin to make proposed transaction
  - Sally gave Jim a valid public key
- Sally/Jim transaction bundled with other recent transactions made through same lightweight node in “block”
- Block then sent to full node (i.e. miner)

# How Nodes Process Transactions



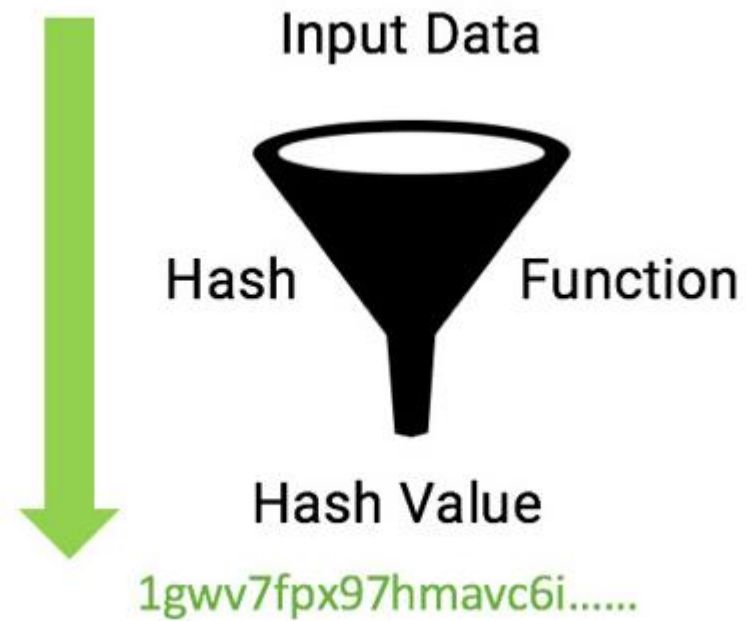
# How Nodes Process Transactions

---

- Miners add block to full blockchain
- Requires massive computing power
- Mining is done through use of hashes
- Hash value = series of numbers and letters strung together
  - E.g. 1gww7fpx97hmavc6inruz36j5h2kfi803jnhg
- Created by pushing data through mathematical formula called “hash function”

# How Nodes Process Transactions

---



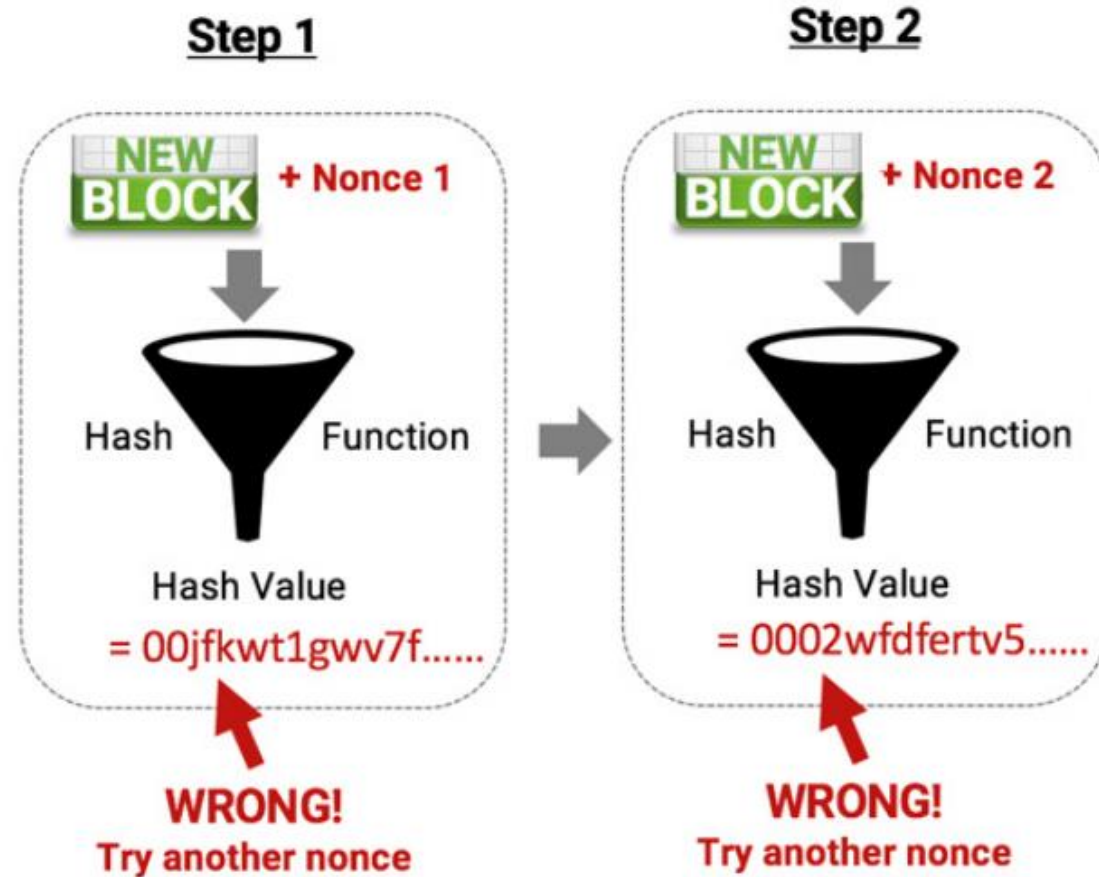
# How Nodes Process Transactions

---

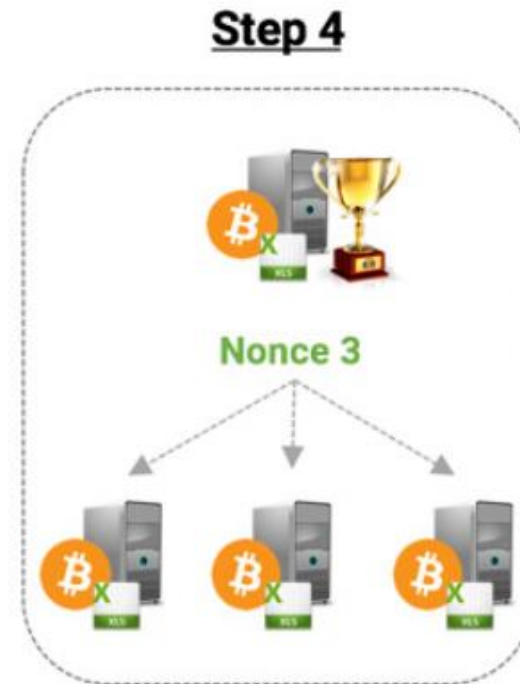
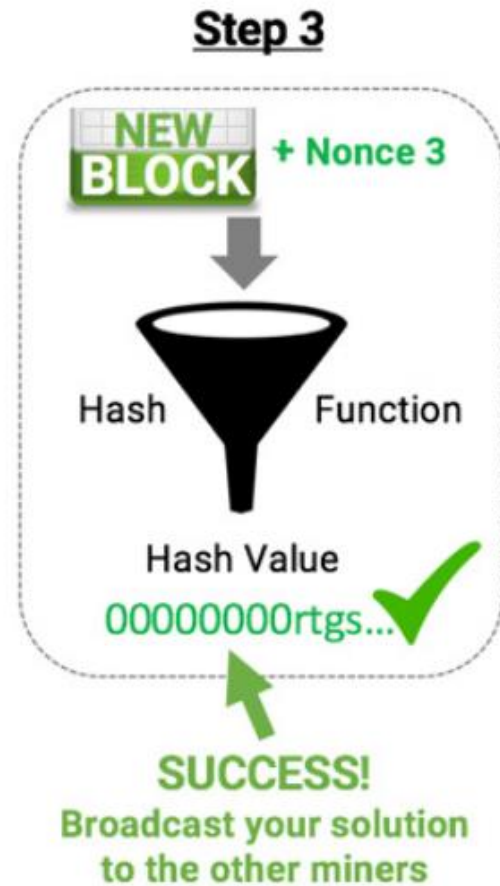
- Miners receive blocks from lightweight nodes
- Use hash function to solve cryptographic puzzle
- Pair block with randomly generated number string (i.e. nonce)
- Push “nonced” block through hash function to create hash value
- Trying to find correct hash value
- Trial and error with various nonces
- All miners race to find correct hash value – winner receives 12 bitcoins (currently worth ~ \$55,000)
- Winner distributes hash value to all other miners, who add it to their copy of the blockchain
- Sally has now been credited 1 bitcoin and Jim has been debited 1 bitcoin



# How Nodes Process Transactions

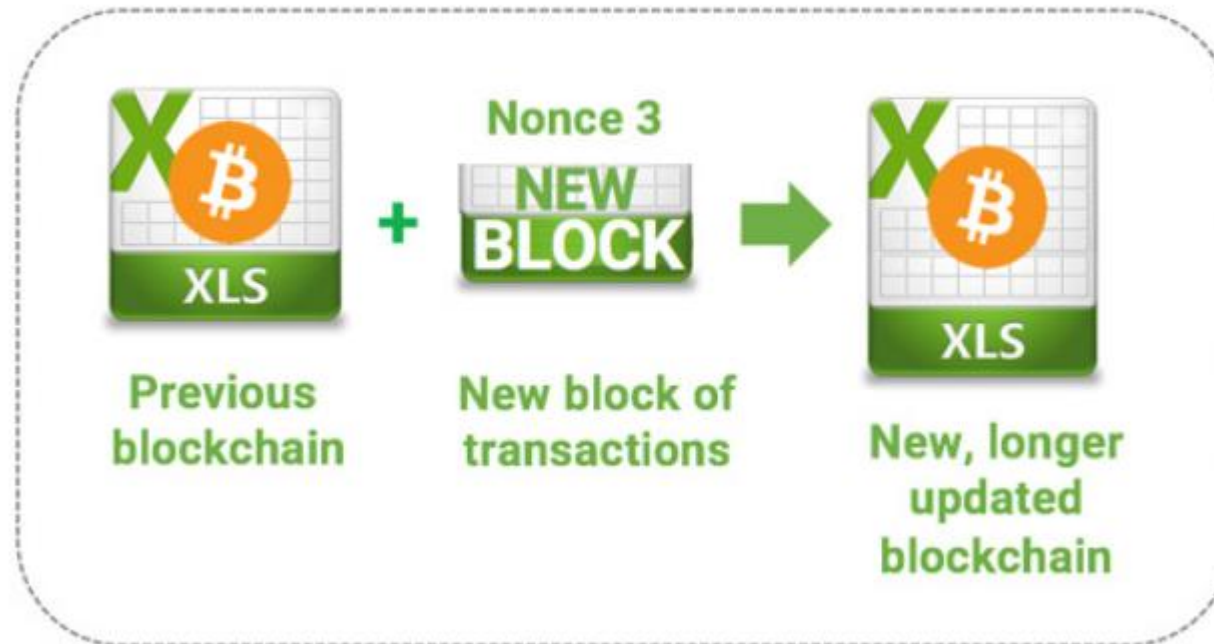


# How Nodes Process Transactions



# How Nodes Process Transactions

## Step 5



# Open v. Permissioned Blockchains


---

- Open = anyone can access blockchain and serve as node
  - Example – Bitcoin
- Permissioned = only certain people given access
  - Better for private business transactions

# Proof-of-Work v. Consensus Blockchains

---

- Proof-of-Work
  - Better for open blockchains (e.g. bitcoin)
- Consensus
  - Ledger updated based on node-consensus
  - Perfect for corporate governance (i.e. Board vote on resolutions)



# Cryptocurrency

# Taxonomy of Money

---

## Four Key Properties:

1. Issuer (central bank or other)
2. Form (electronic or physical)
3. Accessibility (universal or limited)
4. Transfer Mechanism (centralized or decentralized)

# Cryptocurrency Taxonomy

---


1. Issuer = not liability of anyone
2. Form = electronic
3. Accessibility = universal
4. Transfer mechanism = decentralized (i.e. peer to peer)

Other forms of currency share some of these qualities

But cryptocurrency's full taxonomy is unique

Relies on use of blockchain





# The Cryptocurrency Craze

# Proliferation of Cryptocurrency

---

- Bitcoin = first cryptocurrency (2009)
- Since bitcoin's release, over 1,000 new cryptocurrencies
- Top 5 all have market caps over \$1B:
  1. Bitcoin = \$55B
  2. Ethereum = \$25B
  3. Ripple = \$6.8B
  4. Bitcoin Cash = \$5.1B
  5. Litecoin = \$2.3B
- Corporations beginning to accept bitcoin as payment for goods (e.g. Overstock, Subway)

# Initial Coin Offering

---

- Organizations have begun to raise funds by issuing cryptocurrency
- Initial Coin Offering (“ICO”)
- Functions much like an IPO (until recently, largely unregulated in U.S.)
- In past 2 years, almost \$2B raised through ICOs
- Bitcoin has more than quadrupled in price since beginning of 2017

# The ICO Bubble?

---

- Many people have warned of fraud in the cryptocurrency world
- Many instances already of actual fraud
- Investors starting to wonder whether cryptocurrency market is bubble ready to burst
- Similar to “.com bubble” in late 90s/early 00s
- ICO bubble Likely to follow similar fate:
  - Crazed interest in revolutionary technology
  - Massive overinvestment
  - Market tanks
  - Slow, steady and responsible regrowth
- Cryptocurrency could become as foundational in society as the internet itself



# The SEC's Take on Cryptocurrency

# SEC Report on “The DAO”

---

- First SEC Investigation into ICOs
- The DAO
- Report: July 25, 2017
- Investigated whether DAO Tokens are properly characterized as securities (and thus subject to Section 5 registration under the Securities Act)

# The DAO

---

- Unincorporated organization
- Created by Slock.it UG, a German corporation
- First example of a Decentralized Autonomous Organization
- Decentralized Autonomous Organization = “a ‘virtual’ organization embodied in computer code and executed on a distributed ledger of blockchain”
- Raised funds through ICO – issued DAO Tokens
- All funds raised using Ethereum Blockchain platform (i.e. can only buy DAO Tokens with Ethereum currency)
- Holders of DAO Tokens will share in anticipated earnings of The DAO
- DAO Tokens can be readily monetized by reselling them on various other blockchain platforms

# The DAO

---

- The DAO uses funds raised through ICO to fund other “projects”
- Project proposals submitted for approval and funding
- DAO Token holders vote to fund projects
- Anyone can propose a project
- Team of “Curators” decide which proposals are put to vote by all DAO Token Holders
- Curators were originally group of individuals hand selected by Slock.it
- Curators have been given ultimate discretion to decide which proposals to submit for full vote



# The SEC's Question

---

- Are DAO Tokens “securities” as defined by Section 2(a)(1) of the Securities Act and Section 3(a)(10) of the Exchange Act?
- Both Acts include “an investment contract” in their definitions

# An Investment Contract – The *Howey* Test

---

- *SEC v. W.J. Howey Co.*, 328 U.S. 293 (1946) – Supreme Court decision that defined “an investment contract”
- An investment contract is an investment of money in a common enterprise with a reasonable expectation of profits to be derived from the entrepreneurial or managerial efforts of others. *Id.* at 301.
- Three Elements:
  1. Investment of money
  2. Reasonable expectation of profits
  3. Derived from managerial efforts of others

# 1. Investment of Money

---

- DAO Tokenholders received DAO Tokens in exchange for Ether
- “[T]he investment of ‘money’ need not take the form of cash.”
- The SEC found that exchange of Ethereum for DAO Tokens was the “type of contribution of value that can create an investment contract under *Howey*.”

## 2. Reasonable Expectation of Profits

---

- Slock.it disseminated materials to potential purchasers of DAO Tokens which stated that The DAO would be a for-profit entity whose objective would be to fund projects in exchange for a return on their investment.
- The SEC recognized that depending on the terms of each particular proposal that was approved for funding, DAO Tokenholders stood to share in potential profits from such contracts.
- It concluded that “a reasonable investor would have been motivated, at least in part, by the prospect of profits on their investment of ETH in The DAO.”

### 3. Derived from Managerial Efforts of Others – Overview

---

- Two-part analysis:

1. Efforts of:

- a. Slock.it and Slock.it co-founders

- b. Curators

2. DAO Tokenholders' limited voting rights

### 3. Derived from Managerial Efforts of Others – Part 1(a): Slock.it

---

- Marketing materials touted Slock.it and its co-founders and their active engagement with The DAO
- Slock.it created and maintained online forums to provide DAO Tokenholders with information regarding how to vote and other tasks related to their investment
- Forums closely monitored, with Slock.it answering questions from DAO Tokenholders
- Co-founders held themselves out as experts in Ethereum
- Co-founders personally selected Curators
- Slock.it and co-founders actively oversee The DAO
- The SEC concluded that “Slock.it and its co-founders led investors to believe that they could be relied on to provide the significant managerial efforts required to make The DAO a success.”

### 3. Derived from Managerial Efforts of Others – Part 1(b): Curators

---

- Curators had four primary functions:
  1. Vet people making proposals
  2. Determine whether and when to submit proposals for vote
  3. Determine order and frequency of proposals submitted for vote
  4. Determine whether to cut default quorum for successful vote *in half* for certain proposals
- Curators exercise significant control over order and frequency of proposals put to vote
- Could impose own subjective criteria for “whitelisting” a proposal for vote
- DAO Tokenholders could submit proposal to remove a Curator, but Curators have control over whether to put that proposal up for a vote

# Derived from Managerial Efforts of Others – Part 2

---

- “The voting rights afforded DAO Token holders did not provide them with meaningful control over the enterprise, because (1) DAO Token holders’ ability to vote for contracts was a largely perfunctory one; and (2) DAO Token holders were widely dispersed and limited in their ability to communicate with one another.”
  1. Perfunctory voting:
    - a. DAO Tokenholders could only ever vote on proposals that had been cleared by Curators
    - b. Proposals need not contain specific detail, leaving investors without enough information to make informed voting decisions (e.g. Slock.it put forth its own proposal and in response to forum question, a Slock.it founder explained “that the proposal was intentionally vague and that is was, in essence, a take it or leave it proposition not subject to negotiation or feedback.”)
  2. Dispersion and limited ability to communicate:
    - a. Widely dispersed through initial online offering and secondary trading market
    - b. Posts in proposal forums could be made by anyone (not just DAO Tokenholders); DAO Tokens held and posts made pseudonymously (i.e. real world identities unknown) ; forums of limited use to consolidate votes in order to assert actual control
- The SEC concluded that these facts “render[ed] the voting rights of DAO Token holders akin to those of a corporate shareholder.”



# The SEC's Conclusion

---

- DAO Tokens are securities
- “Because DAO Tokens were securities, The DAO was required to register and offer the sale of DAO Tokens, unless a valid exemption from such registration applied.”
- At this time, the SEC has not initiated any enforcement action against Slock.it or The DAO
- Warning to the industry

# Two Types of Cryptocurrency

---

1. Securities cryptocurrencies – investment in enterprise with ability to exchange currency and expected return on investment (e.g. The DAO)
2. Application cryptocurrencies – purchase of digital coins that can only be used in application of online program (e.g. Pokecoin)

# SEC Shutdown of ICOs

---

- September 29, 2017 – SEC complaint filed against Maksim Zaslavskiy and two of his companies (for violation of fraud and registration regulations):
  1. REcoin – touted as the first ever cryptocurrency backed by real estate
    - a. Investors told that team of real estate professionals would be responsible for investing ICO proceeds in real estate (although none hired or consulted)
    - b. Whitepaper stated that “[t]he value of the currency can grow at least two ways: through the steady increasing value of the real estate investments that REcoin is used to purchase, and a higher ReCoin value when the demand for ReCoin rises”
    - c. Zaslavskiy represented that \$2M-\$4M raised when only about \$300K raised
  2. Diamond Reserve Club – similar scheme but with diamonds instead of real estate
    - a. Investors told to expect 10% to 15% from Diamond’s operations
    - b. SEC alleges no diamonds purchased and no business operations
- Protostarr – investment in rising internet celebrities
  - Self-shutdown after contact by the SEC

# ParagonCoin – Maybe a Security?

---

- Paragon – marijuana startup
- Funding new project with ICO – ParagonCoin
- Holders would use ParagonCoin to pay rent at Paragon's co-working spaces
- Securities token OR application token?



# How to Move Forward

# Use of Exemptions from Registration

---

- Reg D – General Solicitation
- Crowdfunding
- Reg A
- The Problem – how to prove whether particular tokenholder is “accredited investors” or not
  - Each of above private capital raising methodologies implicate “accreditation”
  - Possible Solution – include screening process to establish accreditation in smart contract

# Consequences of Illegal Securities Offering

---

- Cease and desist order
- Potential issuer (and promoter) civil and criminal liability
- Investor rescission rights
- Assuming securities offered, activities of exchanges and other intermediaries also come under scrutiny
  - +Zero – (subsidiary of Overstock.com, Inc.) – taken lead to form digital tokens exchange to be first in compliance with SEC and financial industry regulatory authority guidelines

# Other Regulatory Regimes

---

- Commodities Futures Trading Commission (CFTC)
  - October 17, 2017 – CFTC statement that certain cryptocurrencies may be commodities and thus fall within its jurisdiction
  - Certain cryptocurrency options and other derivative instruments linked to cryptocurrencies would constitute commodities
  - July, 2017 – CFTC approved LedgerX for registration as a Swap Execution Facility (SEF) and a Derivate Clearing Organization (DCO)
    - First endeavor – list and clear bitcoin options
- Investment Company Act (ICA)
  - Entities that purchase cryptocurrencies entities could inadvertently become investment companies subject to the ICA
  - If so, subject to SEC regulation
- Internal Revenue Service (IRS)
  - Notice 2014-21 – cryptocurrencies considered property for U.S. Tax purposes



# Conclusion

---

- Market participants must proceed with caution in structuring offerings and sales of tokens
- Carefully consider those factors, analysis, and conclusions contained in SEC report
- Consult with experienced counsel in considering transactions in cryptocurrencies

# Thank you

## **Howard Glicksman**

Phone (303) 813-6722  
hglicksman@rcalaw.com

## **Ben Leonard**

Phone (303) 813-6718  
bleonard@rcalaw.com

In accordance with applicable professional standards, some firm services may not be available to attest clients.

This material is for informational purposes only and should not be construed as financial or legal advice. Please seek guidance specific to your organization from qualified advisers in your jurisdiction.

© 2017 Crowe Horwath LLP, an independent member of Crowe Horwath International [crowehorwath.com/disclosure](https://www.crowehorwath.com/disclosure)

# Bibliography

---

References in this bibliography are organized by slide for which the sources were used.

- Slide 2:
  - Neuberger & Mollod, “New Crop of State Blockchain-Related Laws May Prompt Additional Legislative Activity, Further Development of Blockchain and Cybersecurity Solutions”, October 2, 2017, available at [Bloomberglaw.com](http://Bloomberglaw.com), Bloomberg BNA Law Reports
  - Thomason, “Understanding Cryptocurrencies: Audit Considerations and Potential Regulations”, October, 2017, available at [Richeymay.com](http://Richeymay.com)
- Slide 5: Carter, “Distributed Ledger Technology and the Future of Life As We Know It”, September 23, 2017, available at [Pointsandfigures.com](http://Pointsandfigures.com)
- Slides 6, 23, 24: Bech & Garratt, “Central Bank Cryptocurrencies”, September 17, 2017, available at [Bis.org](http://Bis.org)
- Slides 7-19: Churchouse, “Become a Blockchain Expert in 1,384 Words”, October 13, 2017, available at [Stansberrychurchouse.com](http://Stansberrychurchouse.com)

# Bibliography

---

- Slide 26: Duggan, “On the Breadth of Cryptocurrency: How Many Different Kinds of Digital Currencies Are There?”, August 8, 2017, available at [benzinga.com](http://benzinga.com)
- Slide 27:
  - Russo, “It’s About to Become Even Easier to Issue Blockchain-Based Coins”, September 11, 2017, available at [Bloomberglaw.com](http://Bloomberglaw.com), Bloomberg BNA Law Reports
  - Kharif, “Digital Token Returns Prove Fleeting After Euphoria Wears Off”, October 18, 2017, available at [Bloomberglaw.com](http://Bloomberglaw.com), Bloomberg BNA Law Reports
- Slides 30-41: Securities and Exchange Commission, Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: The DAO, Release No. 81207, July 25, 2017, available at [sec.gov](http://sec.gov)
- Slide 43:
  - Shin, “After Contact by SEC, Protostarr Token Shuts Down Post-ICO, Will Refund Investors”, September 1, 2017, available at [Forbes.com](http://Forbes.com)
  - Ryan, “SEC Shuts Down Two ICOs”, September 29, 2017, available at [cfo.com](http://cfo.com)

# Bibliography

---

- Slide 44: Leising & Robinson, “SEC Said to Monitor Digital Coin Sales as Market Tops \$2 Billion”, September 18, 2017, available at [Bloomberglaw.com](https://www.bloomberglaw.com), Bloomberg BNA Law Reports
- Slide 47: Leising, “This 31-Year-Old Wants to Revolutionize Cryptocurrency Trading”, October 2, 2017, available at [Bloomberglaw.com](https://www.bloomberglaw.com), Bloomberg BNA Law Reports
- Slide 48:
  - Graph, Architzel, Berkovitz & Brown, “SEC Confirms ICOs Are Securities Offerings; regulators Renew Focus on Cryptocurrencies”, October 4, 2017, Slide 47: Leising, “This 31-Year-Old Wants to Revolutionize Cryptocurrency Trading”, October 2, 2017, available at [Bloomberglaw.com](https://www.bloomberglaw.com), Bloomberg BNA Law Reports
  - Leising & Louis, “A Bitcoin ETF May Be the Next Big Thing on U.S. Exchanges,” October 20, 2017, <https://www.bloomberglaw.com>, Slide 47: Leising, “This 31-Year-Old Wants to Revolutionize Cryptocurrency Trading”, October 2, 2017, available at [Bloomberglaw.com](https://www.bloomberglaw.com), Bloomberg BNA Law Reports