

**What Everyone Needs to Know About Bitcoin & Crypto**

2022 CAS Annual Meeting

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November 9, 2022

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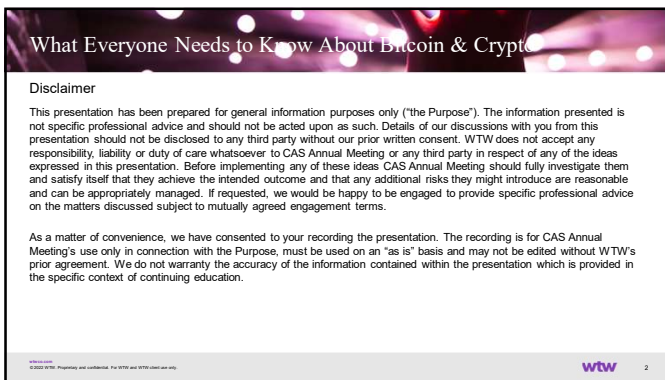
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**What Everyone Needs to Know About Bitcoin & Crypto**

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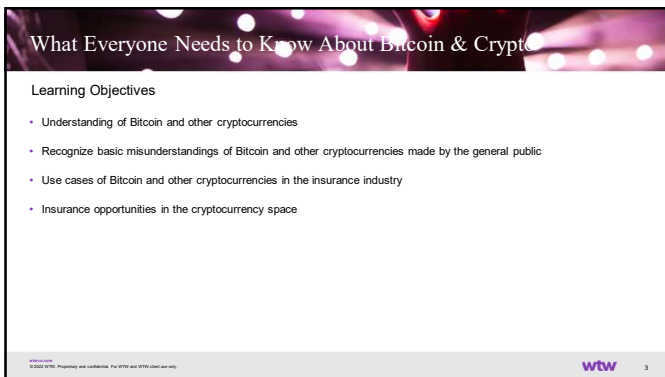
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**What Everyone Needs to Know About Bitcoin & Crypto**

**Learning Objectives**

- Understanding of Bitcoin and other cryptocurrencies
- Recognize basic misunderstandings of Bitcoin and other cryptocurrencies made by the general public
- Use cases of Bitcoin and other cryptocurrencies in the insurance industry
- Insurance opportunities in the cryptocurrency space

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## What Everyone Needs to Know About Bitcoin & Crypto

Table of Contents

- What is Bitcoin and cryptocurrency?
- Where do traditional actuarial skills and cryptocurrency intersect?
- The future of cryptocurrency and insurance

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## Introduction

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## What is Bitcoin and Cryptocurrency?

**Why is it relevant?**

**Financial System Infrastructure Changes**

- Modernization of current financial systems
- Central Bank Digital Currency (CBDC)

**Material Market Capitalization and Transaction Volume**

- ~\$1T market cap, surpassing \$3T in recent history (all cryptos)
- 30-day moving average transaction volume of \$2B, peaking at over \$7B (Bitcoin only)

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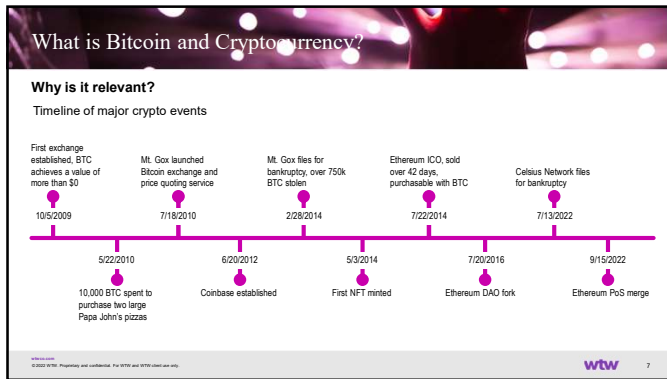
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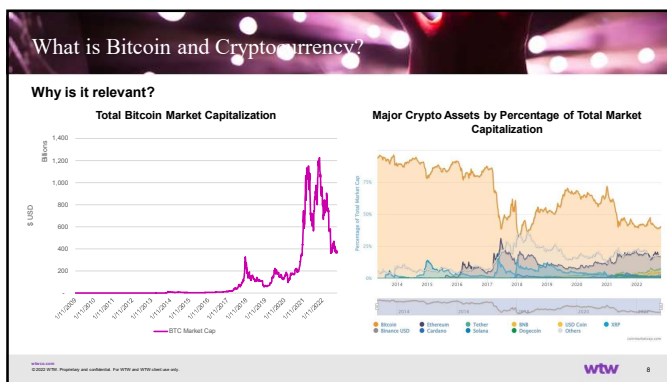
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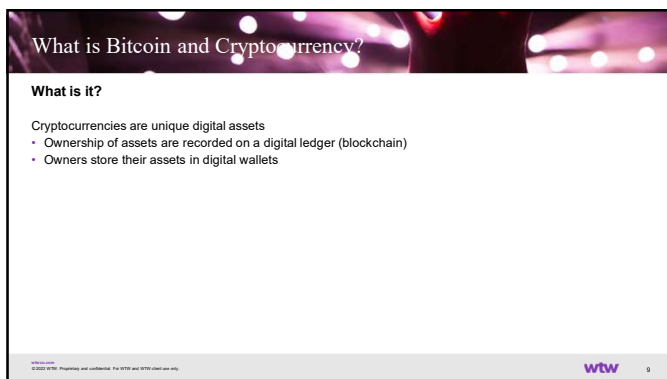
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## What is Bitcoin and Cryptocurrency?

### Primer on common terms

- Blockchain
- Block
- Decentralized
- Trustless
- Mining
- Proof of Work (PoW)
- Proof of Stake (PoS)

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## What is Bitcoin and Cryptocurrency?

### Storage of digital assets

- Types of wallets
  - Hardware
  - Software
- Storage types
  - Warm
  - Cold
- Keys
- Exchange vs Self-Custody

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## What is Bitcoin and Cryptocurrency?

### Current Bitcoin stats

<b>\$375B</b> market cap	Blockchain is <b>490 GB</b>	<b>Billions</b> of USD in transactions processed on the network per day	
<b>769M</b> transactions recorded on the blockchain	<b>6.25 BTC</b> block subsidy		<b>19.2MBTC</b> out of 21M in circulation
	<b>&gt; 250 EH/s</b> network computational power		
	Has surpassed <b>\$1T</b> on multiple occasions		

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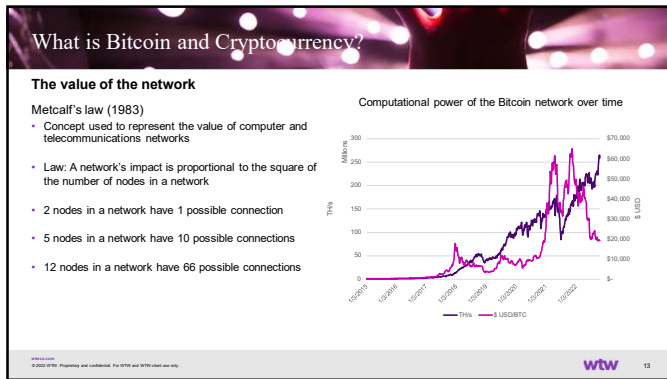
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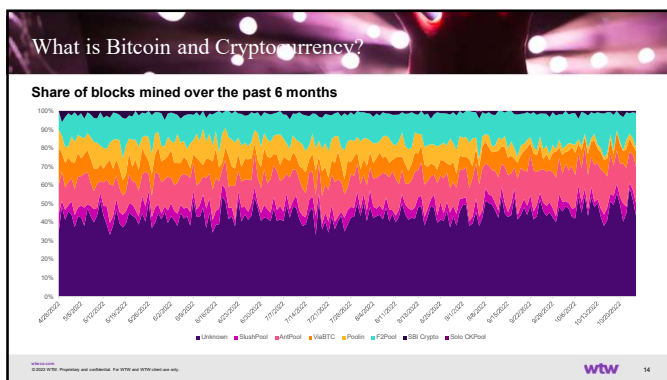
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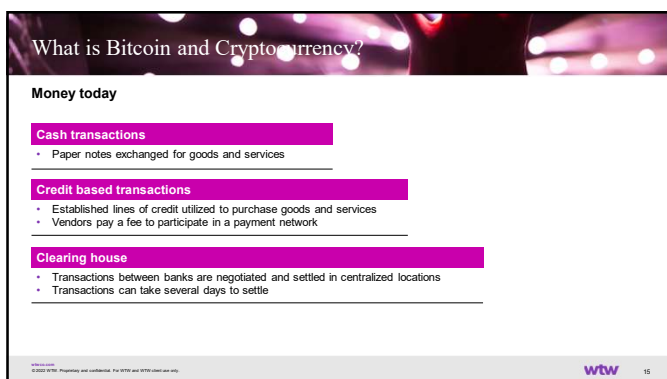
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What is Bitcoin and Cryptocurrency?

**How does Bitcoin compare to what we are familiar with today?**

**Durability** – How tough is it? Does it withstand erosion over time?

**Portability** – How moveable is it? Are larger quantities more difficult to move than smaller quantities?

**Divisibility** – Can it be broken into smaller pieces? Is it practical for smaller economic transactions?

**Uniformity** – Are all units equivalent in value?

**Scarcity** – Is there a limit to the total quantity/amount available?

**Acceptability** – Is it useable/accepted as a method of payment?

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What is Bitcoin and Cryptocurrency?

**Durability**

- Cash can be destroyed, transactions can be over written
- Bitcoin transactions are hardcoded into the blockchain, and become increasingly permanent as future blocks are added to the chain
- The Lindy effect



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What is Bitcoin and Cryptocurrency?

**Portability**

- Cash is heavy and difficult to transport
- All quantities of Bitcoin, and other digital assets, weigh the same
  - Digital assets can be transported on paper or through memorizing cryptographic seeds



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## What is Bitcoin and Cryptocurrency?

### Divisibility

- The smallest unit of a dollar is a penny
- The smallest unit of a Bitcoin is a Satoshi
  - 100,000,000 Satoshi = 1 Bitcoin
  - Even more granular division could take place on a second layer network



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## What is Bitcoin and Cryptocurrency?

### Uniformity

- Traditional currencies are uniform
  - Collectability of coins and material costs brings this into question
- Bitcoin is perfectly uniform due to its mathematical nature



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## What is Bitcoin and Cryptocurrency?

### Scarcity

- Dollars are not scarce as new ones are constantly issued
  - Fractional reserve banking
  - Quantitative easing
- Bitcoins have increasing scarcity as time goes on
  - Block subsidy decreases over time
  - Difficulty adjustments occur as network power increases
  - Only 21M Bitcoin will ever be created
  - Bitcoins can be and have been lost forever



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## What is Bitcoin and Cryptocurrency?

### Acceptability

- Dollars are accepted globally
- Bitcoin and other digital assets have some ground to make up here
  - Increasingly accepted as compensation, larger transactions, investments, etc.



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## What is Bitcoin and Cryptocurrency?

### Non-Fungible Tokens and Second Layer Networks

- NFTs
  - Exist on a blockchain
  - Assets with a unique identification code that cannot be replicated
  - This uniformity trait of crypto assets, allowing for unique value
  - Can be used to represent tangible property/assets
- Second Layer Networks
  - Networks built on top of existing block chains
  - Facilitate additional uses, like NFTs and microtransactions

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## Where do traditional actuarial skills and cryptocurrency intersect?

### Indemnifiable losses

- Cyber insurance ransom payments
- Institutionally held crypto assets
- Personal wallets
- Fine art/Specie

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## Where do traditional actuarial skills and cryptocurrency intersect?

### Market needs

- Exchange insurance
- Transaction insurance
  - International commerce
  - Peer-to-peer
- Loss control

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## The future of cryptocurrency and insurance

### Regulations and CDBC's

- The world's largest governments and central banks are developing
- Many central banks have and/or will develop their own CDBC's
- Two countries have accepted Bitcoin as legal tender
  - El Salvador (September 2021)
  - Central African Republic (April 2022)
- Many municipalities are making efforts to be friendly to crypto



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## The future of cryptocurrency and insurance

### Innovative uses of cryptocurrencies/NFTs

- Smart contracts
- Serialized transactions with no intermediary

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## The future of cryptocurrency and insurance

### Parting Thoughts

- Cryptocurrencies have established themselves as a serious monetary asset. Insurance professionals should prepare ourselves to react to the changing landscape that we will need to operate in.
- As central banks and governments develop their own cryptocurrencies, being knowledgeable about the attributes of existing assets and how they compare to proposed assets can help us develop informed opinions.

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## Thank you

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