

# **Understanding cryptocurrency:** A guide for accountants

As cryptocurrency gains increased acceptance, your firm will see more clients seeking help navigating the complexity of virtual money. To help them, your staff needs to understand the basics of digital currency.



Want to know how your firm can help its clients manage cryptocurrency? Check out our white paper: **"Accounting** for cryptocurrency: A challenge and opportunity for CPA firms and professionals."

#### Introduction

There's a type of currency that businesses never physically touch. It's virtual, but spendable. It's made of digital 1s and 0s instead of copper or paper. It's cryptocurrency, and it's growing in popularity.

This increasing popularity means that if cryptocurrency isn't part of CPA clients' plans today, it very well may be in the future.

Without knowing what it is and how it works, tax and accounting professionals will have a tough time helping their clients manage cryptocurrency. As a result, firms and professionals will miss an opportunity to grow their business and meet client needs.

We can help. This white paper provides the basics on cryptocurrency, including what it is, how it's created, how it works, how it's used, and the obstacles holding this virtual currency back from faster mainstream acceptance.

### What is cryptocurrency?

The short answer is that cryptocurrencies are decentralized digital assets that use computergenerated cryptography as an encryption mechanism for security. Cryptocurrencies are autogenerated, which means computing processes create them inside a blockchain (more on blockchains later). They're designed to be private, portable, and secure.

Consumers typically manage their cryptocurrencies inside cryptocurrency wallets that:

- Store the keys required to "decrypt" the currency and allow it to be used
- Enable conversion of real dollars to cryptocurrencies
- Enable the transfer of funds between markets
- Enable transactions between the currency holder and participating vendors

Like gold, cryptocurrency is mined — but via a computer "mining rig" instead of a pick and shovel. These mining rigs typically consist of a computer that has many graphics cards but no monitor. The rig is connected to the internet and thus the blockchain network, which works by itself to conduct monetary transactions using the power of the graphics cards.

Mining is like puzzle solving: People use computers and specialized software to solve a complicated algorithm that is so complex it cannot be solved by hand and even taxes incredibly powerful computers. Once the algorithm is solved, a "coin" is produced. A new coin is mined every 10 minutes.<sup>1</sup> Various nodes — a network of computers and programs — compete to complete the task first, and the winner gets the coin. This process is called "proof of work."

The distributed nature of the mining process is critical to keeping cryptocurrency honest. Working inside the blockchain, the same people mining the coins serve as auditors providing the "proof of work." Audit professionals might see this as a risk, and, in fact, fraud is rife.

The first cryptocurrency, Bitcoin, was introduced in a theoretical white paper in 2008 with three main goals in mind:

- Leverage blockchain to make transactions secure, private, and, in many cases, nontraceable
- Create a global currency
- Reduce the transaction and processing fees usually associated with cross-border business

Since Bitcoin's inception, the cryptocurrency market has expanded rapidly. There are currently more than 6,000 cryptocurrencies being mined and transacted, making the market hard to navigate.<sup>2</sup> This is where the right tax, accounting, or investment professional can make an enormous difference to clients.



The Bitcoin mining speed is always 10 minutes because the mining software takes that much time to solve the task.<sup>3</sup>



Blockchain is still young, but its technology market is growing by about \$1 billion every year — and is expected to reach \$40 billion by 2025.<sup>3</sup>

# Power definitions

- Cryptocurrency mining:<sup>4</sup> A process in which transactions for various forms of cryptocurrency are verified and added to the blockchain digital ledger. Also known as cryptomining, cryptocoin mining, altcoin mining, or Bitcoin mining.
- Cryptography:<sup>5</sup> The mathematical and computational practice of encoding and decoding data. Bitcoin uses three different cryptographic methods, including one dedicated to generating its public-private key pairs and another for "mining."
- **Mining rig:**<sup>6</sup> One or more computers specially designed to maintain the blockchain via mining.

**Node:**<sup>7</sup> A computer that connects to a cryptocurrency network. The node or computer supports the network through validation and relaying transactions. The network of nodes stores information about prior transactions and helps verify their authenticity.

 Proof of work:<sup>8,9</sup> A system that requires a not-insignificant but feasible amount of effort to deter frivolous or malicious uses of computing power, such as sending spam emails or launching denial-ofservice attacks. Proof of work is one of the consensus mechanisms for achieving agreement on the blockchain network to confirm transactions and produce new blocks to the chain. With proof of work, miners compete against each other to validate transactions and get rewarded.

#### What's the relationship between cryptocurrency and blockchain?

Cryptocurrency is built on the blockchain, which also provides a permanent record of transactions between any given party, confirmed, and verified by a network of computers (or nodes).

Coins are created and added to the blockchain, which is essentially a distributed, decentralized public ledger. Once they're part of the chain, they are part of an immutable record that follows that coin wherever it goes. When a cryptocurrency coin is split or shared, or "change is made," the blockchain captures all these details.

Nodes continually update the blockchain when new blocks of transactions are added.

By using the blockchain, parties conducting transactions don't need to reveal their identities, and the transaction doesn't need to be verified by a third party.

## **Power definitions**

- **Block:**<sup>10</sup> Files where data pertaining to the cryptocurrency network are permanently recorded. A block records some or all the most recent cryptocurrency transactions that have not yet entered any prior blocks. Thus, a block is like a page of a ledger or record book.
- Blockchain:<sup>11</sup> A digital, public ledger that records online transactions. Blockchain is the core technology for cryptocurrencies.
- **Block explorer:**<sup>12</sup> A tool people use to view all cryptocurrency transactions online.
- **Block reward:**<sup>13</sup> The number of cryptocurrency coins a person gets if they successfully mine a block of the currency.



According to a Crystal Blockchain report on international Bitcoin flows from 2013 to 2019, the following countries use cryptocurrency the most:<sup>3</sup>

- 1. European Union
- 2. United States
- 3. The United Kingdom
- 4. Singapore
- 5. Hongkong

The United States is a booming market for many things that involve risks. Cryptocurrencies were considered risky for the longest time but are becoming more accepted.<sup>3</sup>

#### How do people use cryptocurrency?

People use cryptocurrency primarily for three reasons:

- **They're transacting business:** While it's difficult to make straight-to-vendor cryptocurrency transactions, a growing number of platforms are enabling businesses to take cryptocurrency. The list of stores that accept cryptocurrency is large and getting longer every day. These include Barnes & Noble, Baskin-Robbins, Bed Bath & Beyond, Caribou Coffee, Crate and Barrel, Express, GameStop, Lowe's, Nordstrom, Office Depot OfficeMax, Petco, Regal Cinemas, Ulta Beauty, Whole Foods Market, and Starbucks. The process of spending cryptocurrency in a store is equivalent to using PayPal or a debit card, but users use a Coinbase account or the Cash App.
- **They're investing money:** Cryptocurrency has created a huge alternative investment market for people looking to grow their money. The upside is obvious, but a lightly regulated market means there aren't the typical protections available as for other investment vehicles.
- **They're raising money:** The ability to raise funds via an initial coin offering (ICO) is attractive to businesses looking to generate capital for a product or service. The relative newness of the vehicle and the complexity of the process have so far constrained adoption for this.

# Power definitions

- Attestation ledger:<sup>14</sup> A register or account book created to provide support/ evidence of individual transactions.
- Initial coin offering:<sup>15</sup> The cryptocurrency industry's equivalent to an initial public offering. A company looking to raise money to create a new coin, app, or service launches an ICO to raise funds. Interested investors can buy into the offering and receive a new cryptocurrency token issued by the company.
- Proof of stake:<sup>16</sup> A concept that states a person can mine or validate block transactions according to how many coins they hold. The more Bitcoin or altcoin owned by a miner, the more mining power they have.
- Zero confirmation transaction:<sup>17</sup> An exchange that has not yet been recorded and verified on the blockchain. Instead, the seller immediately assumes they received their money and delivers what was sold.

### Are there other types of cryptocurrency besides Bitcoin?

Bitcoin was the first cryptocurrency, and it remains the king of cryptocurrency, with a market cap of more than \$292 billion. But there have been new cryptocurrency variations introduced since 2008, typically called "altcoins."

- Utility tokens: Used for services, or units of services, that can be bought. These tokens are digital assets designed to be spent within a specific blockchain ecosystem.
- Security tokens: Presented to investors in an ICO in exchange for their money.
  - Security tokens represent an investment in the company itself.
  - These are not designed to be used for transactions. They're a digital representation of a share of ownership into an underlying asset.

*The cryptocurrency* coin market was estimated to be worth about \$237B at the end of 2019. Most of this value was driven bv:20

- 1. Bitcoin
- 2. Ethereum
- 3. XRP
- 4. Tether
- 5. Chainlink

As the market rose and fell, Bitcoin ceded ground to other coins, but mass adoption has restored its market dominance. Bitcoin has traded as high as roughly \$20,000 in late 2017 and is worth about \$35,500 as of early January 2021.21

- Stablecoins: The latest type of cryptocurrency, this is a class of cryptocurrencies that attempt to offer price stability and are backed by a reserve asset. There are three types of stablecoins:
  - Fiat-collateralized stablecoins are pegged to real-world assets such as the U.S. dollar, the euro, the pound, or the yen. The most well-known stablecoin is Tether.
  - Crypto-collateralized stablecoins are linked to the reserves of other cryptocurrencies. They maintain their one-to-one ratio through over-collateralization. MakerDAO is one cryptocurrency that is backed up by another. It is pegged to the U.S. dollar and backed by Ethereum.
  - Non-collateralized tokens are pegged to precious metals such as gold or oil.

# **Power definitions**

- Altcoin:<sup>22</sup> Other cryptocurrencies launched after the success of Bitcoin.
- **Bitcoin:**<sup>23</sup> The world's first and largest cryptocurrency by market cap.
- **Crypto token:**<sup>24</sup> Special kinds of virtual currency tokens that reside on their own • Utility token:<sup>25</sup> Provides users with blockchains and represent an asset or utility. They are often used to fundraise for crowd sales, but they can also be used as a substitute for other things. Also called crypto assets.
- Equity token:<sup>25</sup> A subcategory of security tokens that represent ownership of an

asset, such as debt or company stock. By employing blockchain technology and smart contracts, a startup could forgo a traditional initial public offering and instead issue shares and voting rights over the blockchain.

future access to a product or service. Through utility token ICOs, startups can raise capital to fund the development of their blockchain projects, and users can purchase future access to that service. sometimes at a discount off the finished product's sticker price. Also called app coins or user tokens.

#### What are the obstacles to mass cryptocurrency adoption?

For a technology that promises to be easy and anonymous, operationalizing cryptocurrency has proven to be complex. The need for peer-to-peer transactions removes the veil of secrecy, and ease of use lags adoption.

Criminal association and fear of fraud, mostly due to cryptocurrency's popularity on the dark web, make mainstream users wary. Despite it being built on a secure blockchain foundation, there have been numerous instances of blockchain fraud. The publicity around these is one reason both investors and businesses are cautious. Common frauds include:

- Ponzi schemes, in which consumers hand over money to "experts" who promise a return that never comes or doesn't live up to expectations.
- Fake exchanges that purport to let people invest in funds; cryptocurrencies are taken but never moved.
- Fake currencies that are hard for consumers to distinguish from real cryptocurrencies. Like an investment scam, a customer is promised high rates of growth and return that never materialize.
- Malware that allows cyber thieves to steal cryptocurrency funds and other banking information.



According to CoinMarketCap, there more than 6,000 different types of cryptocurrencies in use.<sup>18</sup> Many cryptocurrency varieties are designed for a specific purpose. Some are designed for agriculture and manufacturing, some for music distribution.

All the options and complexity simply overwhelm users with choice and make the market seem less tangible, causing people to hesitate to adopt cryptocurrency for use or investment. Light regulation doesn't help, especially as cryptocurrencies are designed to be global and decentralized, escaping any single regulator's reach.

Compared to fiat currency, cryptocurrency volatility can be dramatic. Investors can see huge gains or losses across a period of just a few days — meaning there is significant risk along with the potential great reward. Once a transaction starts, fees and market volatility can radically alter the economics before it's completed.

Plus, blockchain and cryptocurrency require a substantial hardware investment and generate a tremendous energy footprint. The entire market uses the same amount of power as the nation of Switzerland consumes in a single year. As the market grows, sustainability becomes a bigger concern.

#### Conclusion

Firms looking to build out their cryptocurrency capabilities need to start by getting educated in the space. This is the critical first step to equipping staff with the knowledge and skills they'll need to help clients embrace the opportunity while always keeping an eye on risk.

Luckily, increased resources are coming online explicitly designed for accounting firms. From industry webinars to CPE materials, the volume of information available continues to increase over time. Firms would be smart to consider which cryptocurrency path — compliance, advisory, or audit — is best suited to their skills and client needs. Then, as competency increases, so can the services and expertise firms can offer.

For tools and resources to expand your cryptocurrency knowledge and to help your clients manage their virtual currency, contact Thomson Reuters<sup>®</sup> today at 800-968-8900 or visit tax.thomsonreuters.com/en/accounting-solutions.

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- 1 "Proof of work," Investopedia, June 28, 2020. www.investopedia.com/terms/p/proof-work.asp
- 2 "How many cryptocurrencies are there in 2020?" E-Crypto News, September 8, 2020. https://e-cryptonews.com/how-many-cryptocurrencies-are-therein-2020/
- 3 "15 intriguing cryptocurrency statistics 2020," Modern Gentleman, August 4, 2020. https://moderngentlemen.net/cryptocurrency-statistics/
- 4 https://www.webopedia.com/TERM/C/cryptocurrency-mining.html
- 5 https://www.investopedia.com/tech/explaining-crypto-cryptocurrency/
- 6 https://decryptionary.com/dictionary/mining-rig/
- 7 https://marketbusinessnews.com/financial-glossary/node-cryptocurrency-network/
- 8 https://www.investopedia.com/terms/p/proof-work.asp
- 9 https://www.ledger.com/academy/blockchain/what-is-proof-of-work
- 10 https://www.investopedia.com/terms/b/block-bitcoin-block.asp
- 11 https://www.bankrate.com/glossary/b/blockchain/
- 12 https://marketbusinessnews.com/financial-glossary/block-explorer/
- 13 https://www.investopedia.com/terms/b/block-reward.asp
- 14 "Blockchain Terminology: A Glossary for Beginners," CompTIA Blockchain Advisory Council. https://www.investopedia.com/terms/b/block-reward.asp
- 15 https://www.investopedia.com/terms/i/initial-coin-offering-ico.asp
- 16 https://www.investopedia.com/terms/p/proof-stake-pos.asp
- 17 https://decryptionary.com/dictionary/zero-confirmation-transaction/
- 18 "Bitcoin," CoinMarketCap. https://coinmarketcap.com/currencies/bitcoin/
- 19 "Market capitalization of cryptocurrencies from 2013 to 2019," Statista, November 9, 2020. https://www.statista.com/statistics/730876/cryptocurrency-maket-value/
- 20 "Today's cryptocurrency prices by market cap," CoinMarketCap. https://coinmarketcap.com/
- 21 "Historical data for Bitcoin, "CoinMarketCap. https://coinmarketcap.com/currencies/bitcoin/historical-data/
- 22 https://www.investopedia.com/terms/a/altcoin.asp
- 23 https://www.investopedia.com/terms/b/bitcoin.asp
- 24 https://www.investopedia.com/terms/c/crypto-token.asp
- 25 https://www.chain-provider.com/the-difference-between-utility-tokens-and-equity-tokens/

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