



SNAPSHOT



A policy brief from the Legislative Research Office

Bitcoin and the Blockchain: What you need to know

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In July 2011, a single bitcoin was worth roughly thirty-one dollars. As of this writing, that same bitcoin is worth \$10,134.71. This represents a return on investment of about 33,000%. So what is all the hype about? Skeptics warn that bitcoin is a fad; a speculative bubble doomed to an inevitable crash. Advocates have called it the future of currency. This Snapshot provides a glimpse of some of the regulatory considerations and potential public sector applications of cryptocurrency technology.

Is bitcoin real money?

Yes. Any scarce resource that people value can be a form of currency. In the past, this has taken the form of gold, silver, and other precious metals. This standard was eventually abandoned in favor of government-backed promissory notes called dollars. Cryptocurrency, also known as digital or virtual currency, represents yet another degree of abstraction, but the fundamental principles of scarcity and value are identical to other forms of money.

What does “cryptocurrency” mean?

The term cryptocurrency has its roots in the hacker community, but really all it means is digital money. Cryptocurrencies, such as Bitcoin, Litecoin, and Monero, take their name from the cryptographic techniques used to ensure they are both secure and anonymous. They are decentralized, peer-to-peer payment networks independent from centralized governmental and financial authorities.

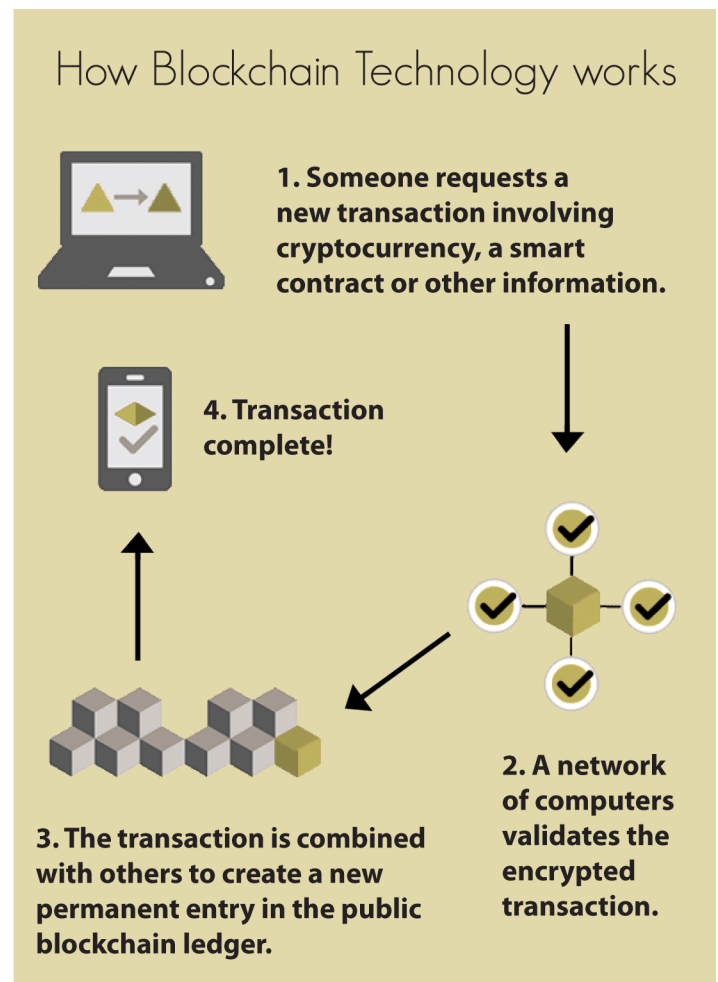
Where did Bitcoin come from?

No one really knows who invented Bitcoin. The original white paper describing the Bitcoin protocol was posted to the web under the pseudonym “Satoshi Nakamoto” in 2009. All efforts to track down this mysterious individual (or individuals) have proven futile. Since Nakamoto left

the project in late 2010, Bitcoin development has been overseen by an open source group of developers from around the world.

How do cryptocurrencies work?

Bitcoin are usually purchased via online exchanges and stored in digital wallets. All Bitcoin transactions are recorded permanently on the “blockchain” – essentially a public ledger shared between all Bitcoin users. The blockchain is the fundamental innovation that has allowed Bitcoin’s decentralized peer network of users to verify transactions and maintain security.





What is “bitcoin mining”?

New bitcoin are created through “mining,” a process of verifying transactions on the blockchain. This is accomplished using networked computers to solve increasingly complex cryptographic puzzles. As more bitcoin are mined, the amount of computing power required to solve these puzzles increases exponentially. This gives the Bitcoin protocol a hard limit of 21 million bitcoins. No more than that will ever exist.

Why should policymakers care?

Blockchain technology was originally developed for Bitcoin, but the two are not the same. The technology has a host of powerful applications unrelated to cryptocurrency, including the potential to change how citizens interact with government. At its core, a blockchain is just a ledger -- a record of transactions. These transactions can be money (in the case of Bitcoin), the assignment of a government ID number, or even a secure online vote in an election.

What are states doing to regulate cryptocurrency?

Due to its decentralized structure, cryptocurrency has proven tricky to regulate. While legislators in some states, such as New York, have passed tough new regulations on digital currencies, most states have left the rules up to state financial regulators. One of the fundamental questions facing regulators is whether or not virtual currency businesses should be considered financial institutions under state law with all the accompanying consumer protections. In January 2018, regulators in Texas, North Carolina, and Massachusetts decided that they do count as financial institutions, issuing cease and desist orders against several cryptocurrency companies for failing to abide by state securities laws.

How can the public sector use blockchain technology?

State governments are currently deploying pilot programs to study the technology. A good example is the [Illinois Blockchain Initiative](#), an interagency pilot program to test public sector blockchain applications. According to the group’s first report, blockchain technology has the potential to “facilitate highly-secure methods for interacting with government and keeping paperless records, increasing data accuracy and providing better cybersecurity protections for state residents.” Waste management, grant distribution, and social welfare programs have been identified as areas that could benefit from blockchain technology.

Pending bills in Nebraska



- **LB 691** sets up a regulatory framework for cryptocurrency focused on combating money laundering, drug trafficking, and other illegal activities. The bill adds penalties for illegal acts using cryptocurrency and requires investors to report high dollar value transactions to the department of revenue.
- **LB 694** would ensure cryptocurrency is regulated at the state level, by prohibiting cities and counties from taxing or regulating distributed ledger technology.
- **LB 695** would pave the way for government adoption of distributed ledger technology and smart contracts by putting them on equal legal footing as traditional contracts. It also would ensure equal legal recognition of electronic signatures and other records secured through distributed ledger technology.
- **LB 987** sets up regulations focused on businesses engaging in “virtual currency business activity.” The bill creates a tiered system of registration and licensure for companies that want to do business using digital currency.

What’s a “Smart Contract”?

A smart contract uses blockchain technology to digitally facilitate, verify, and enforce the negotiation or performance of a contract. In the same way bitcoin does not require intermediaries like a government or bank, smart contracts do not require a third party like a traditional contract. The goal of smart contracts is to provide security that is superior to traditional contract law and to reduce other transaction costs associated with contracting.

How are bitcoins taxed?

Because bitcoin and other cryptocurrencies are considered property by the IRS, capital-gains taxes apply to every digital transaction made. However, the anonymous nature of blockchain transactions represent a new challenge for government auditors. Thus far, states have largely focused on adding cryptocurrencies to state money laundering and tax evasion laws.