

Cryptocurrency: The Next Step in the Noncash Era?

By Judge Herbert B. Dixon Jr. (Ret.)

The \$1 bill first appeared in 1862. Interestingly, the \$2 note appeared in 1776—86 years earlier. Over time, legislative mandates resulted in further iterations and design elements, including fine-line engravings and intricate patterns. This has led to the iconic design of the modern-day, all-American U.S. dollar featuring a portrait of George Washington, the great seal of the United States, an unfinished pyramid under the “Eye of Providence,” and the motto “In God We Trust.” Notwithstanding the evolution of U.S. currency, Americans (and most of the world) are moving to a cash-free ecosystem. In an average week, according to CNBC, roughly 3 in 10 adults make zero purchases using cash.¹

Beyond bartering, noncash payments in the United States started with written checks, which are said to have first been used in 1681 when cash-strapped businessmen in Boston mortgaged their land to a “fund” against which they could write checks.² The next significant noncash development was the credit card, which arrived in the 1920s when individual firms, such as oil companies and hotel chains, began issuing them to customers for purchases made at company outlets. In 1950, Diners Club introduced the first universal credit card created for use at a variety of establishments. Most of us have experience with present-day credit cards, including American Express, MasterCard, and Visa. Now, with payment capabilities offered through Apple Pay, Square Cash, Venmo, and other applications that store payment information on mobile devices, it is easier than ever to *almost* leave your wallet at home.

The new development in the noncash era is cryptocurrency—digital ones and zeros hidden somewhere on a computer or mobile device, or in the cloud. With names such as Bitcoin, Litecoin, Monero, Ripple, Ethereum, Dash, and the new Bitcoin Cash, cryptocurrencies are worth watching. They



may one day gain acceptance as widespread as other forms of noncash payments.

To minimize confusion caused by the differences among cryptocurrencies, this column will focus primarily on Bitcoin, the world’s most popular cryptocurrency. There were early efforts at creating cryptocurrencies before Bitcoin. They included the likes of Bit Gold, HashCash, and other cryptocurrencies that were short-lived or unsuccessful projects. Bitcoin is a decentralized digital currency that does not depend on government backing. Traditionally, paper currency has relied on government backing with gold or silver reserves or some other type of government guarantee.

The Creation and Valuation of Bitcoin

Bitcoin was founded in 2009 when an anonymous figure or group under the pseudonym Satoshi Nakamoto introduced Bitcoin in a nine-page white paper entitled “Bitcoin: A Peer-to-Peer Electronic Cash System.” To this day, Satoshi Nakamoto’s true identity is unknown.

Bitcoin is created and exists through blockchain technology. It is “mined” into

existence when computers solve complex math problems to generate new Bitcoin assets on the network. The miners that solve each progressively more complex equation receive a reward in Bitcoin.³ Each transaction is logged and made on the blockchain. Once a transaction is completed, it becomes a new block on the chain. The blockchain itself is public and cannot be altered. Each recorded block is



Judge Herbert B. Dixon Jr. retired from the Superior Court of the District of Columbia after 30 years of service. He is a former chair of both the

National Conference of State Trial Judges and the ABA Standing Committee on the American Judicial System and former member of the Techshow Planning Board. You can reach him at Jhbdixon@gmail.com. Follow Judge Dixon on Twitter @Jhbdixon.

a math puzzle that must be resolved through the use of computing power.⁴

Bitcoin and most other cryptocurrencies require two identifiers for use in a transaction: a public and a private key. The private key is for the owner's personal use and must be guarded heavily since only the owner has access to it. The public key is less confidential and is more like an identifier for transactions. Once an owner has initiated a transaction, it cannot be altered, and the funds must be present so that the transaction goes through. After each transaction is initiated, other miners on the network record this information as a new block on the chain. Miners verify these transactions so that they are not, accidentally or by attempted fraud, counted twice.⁵

A comprehensive explanation of why Bitcoin has value is not within the capability of this column. Suffice it to say the value of Bitcoin at any particular time is established by the supply and demand market,

cryptocurrencies can also leave an investor emptyhanded because the price fluctuates daily. Consider the example of Pete Roberts. He invested heavily in cryptocurrencies but hit unforeseen consequences. His \$23,000 investment was valued at \$4,000 after a market crash. His claim of financial ruin is understandable.⁶

Losing Cryptocurrency Is as Traumatic as Losing Cash

Remarkably, security measures aimed to protect cryptocurrency assets work a little too well. Access to the asset may be stored on a computer or mobile device, in the cloud, or on a hardware wallet (similar to a USB drive that can store holdings in one place). If the storage device is no longer in possession of the cryptocurrency owner or the password or private key is lost, the owner may be unable to access the cryptocurrency holdings forever.

For example, Nick Ortega, a prominent

Ortega lost his PIN and recovery code and had made many unsuccessful efforts to recover them. As we all know, if Ortega had instead lost his debit card PIN, his bank could have assisted him to recover his funds. Bitcoin is different because computers around the world validate transactions, meaning no individual or business owns the transaction network.⁷

Another story comes from James Howells, a U.K. IT worker. He mined several thousand Bitcoins during its early days and stored them on his laptop in case they became valuable. Unfortunately, Howells accidentally threw away his old laptop hard drive, which he remembered later was the storage location for his Bitcoin data. The value of the Bitcoin on that hard drive reached the equivalent of millions of dollars that Howells will never see unless that old hard drive is recovered from the local landfill and in a condition that allows recovery of the valuable data.⁸



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Retail Purchases with Cryptocurrency

There are some major retailers that accept cryptocurrency, such as Expedia, Microsoft, Newegg, Wikipedia, Dish Network, and Overstock.⁹ To enable more owners to use their cryptocurrency for e-commerce shopping, Moon, a crypto payment processing startup, utilizes the lightning network to enable shopping with online retailers such as Amazon that do not directly accept cryptocurrency payment. By 2020, according to Moon's CEO, the lightning-enabled interface should work on almost any e-commerce site, regardless of whether that platform accepts Bitcoin directly.¹⁰

The SEC and IRS versus Cryptocurrency

As far as the law is concerned, we are traversing uncharted waters. According to the IRS, cryptocurrencies are considered property. Therefore, if you were to trade or sell your cryptocurrency, you would have to report this information to the IRS in accordance with the regulations governing the taxation of capital gains.¹¹

The U.S. Securities and Exchange Commission (SEC) also has tried to define

that is, what the mass of buyers and sellers are willing to agree upon. Numerous online exchanges provide Bitcoin valuation information in various world currencies. When Bitcoin was established in 2009, its value was \$0. In 2010, its highest value was \$0.39. The historic high for a Bitcoin occurred in December 2017 at nearly \$20,000. At the time this column was submitted for publication, the valuation of one Bitcoin in U.S. dollars was \$10,267.73.

Cryptocurrencies have become an investment asset. Bitcoin, in particular, has often made headlines due to its significant value increases. Its most impressive gains occurred in 2017 when the price soared from \$1,000 to \$20,000. Investing in

technology writer, learned this lesson when he could not access his Bitcoin assets. In January 2016, Ortega spent \$3,000 to buy 7.4 Bitcoins. By November, the value of his Bitcoin had nearly doubled. He bought a hardware wallet that would store his private Bitcoin keys and allow him to authorize transactions without exposing those keys to the internet. In addition to the PIN to access the data on his storage device, the hardware had an additional feature, a 24-word recovery code that would allow Ortega to recover the private key to his Bitcoin on a new hardware wallet if he lost the existing device or it stopped working. By August 2017, Ortega's Bitcoin stash was worth over \$32,000. Unfortunately,

cryptocurrencies, especially initial offerings to investors. The SEC has become more involved in regulating initial cryptocurrency offerings given their potential to raise millions of dollars quickly. According to the SEC, there is an increased risk of fraud and manipulation because the markets for these assets are less regulated than traditional capital markets.¹² In addition to regulatory issues that affect the treatment of cryptocurrencies, major investment firms are hesitant to dip themselves into that market. Goldman Sachs is one of the few firms that offer its customers access to cryptocurrency investments.¹³

Cryptocurrency and Illegal Activities

The largest hurdles cryptocurrencies have faced are perceptions about the asset due to the involvement of bad actors. Given the veiled anonymity of a cryptocurrency transaction, it creates a large draw for illicit activities and has become the payment of choice by digital hijackers and individuals dealing in online black-market activities.

According to one study published in 2018, approximately one-quarter of Bitcoin users (25 percent) and close to one-half of Bitcoin transactions (46 percent) are associated with illegal activity, and \$76 billion of illegal activity per year involves Bitcoin (which is close to the scale of U.S. and European markets for illegal drugs).¹⁴ One example of this occurred when the founder of Silk Road, a black marketplace, had \$4 million of Bitcoin assets seized upon his arrest.¹⁵

Ransomware Attacks

As I wrote in a previous technology column, payment in Bitcoin has been the ransom demand of choice by malevolent actors after hijacking government IT systems. In “Cyberattacks on Courts

and Other Government Institutions,”¹⁶ I wrote about cyberattacks in six states, five of which included ransomware demands. The article specifically referenced Bitcoin ransomware demands in three of the states—Georgia, Alabama, and Colorado. Other news reporting revealed that the malevolent actors in the Maryland cyber-attack also demanded Bitcoin payment.¹⁷

Final Thoughts

Our society is in the infancy of its involvement with cryptocurrency. There is still much to learn. Do not think of cryptocurrency as foreign money—currency we often bring home after visiting another country, which has little or no local use. Cryptocurrency will likely gain in popularity. It will likely experience increasing mainstream use for private and commercial transactions and investments, the same as exists for buying, selling, and investing in artwork and stocks. Time will tell if there is a real possibility for cryptocurrency to become as mainstream as checks, credit cards, and mobile payment apps. ■

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Endnotes

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