Can Cash Remain King?

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Central Issue of the Paper

As block chain and Bitcoin have recently entered the mainstream investment lexicon, we here at CAIA thought it might be useful to dig into our archives and revisit a paper titled, "What is Money? From Commodities to Virtual Currencies/Bitcoin" by Benton E. Gup. Published in 2014, Professor Gup focuses on money and payments in the United States and attempts to address historically what defines money and how does it become a form of accepted payment.

Approach Employed by Paper

Money is a term of art that may be described by its functions. The three primary functions are 1) a means of exchange in terms of 2) a defined unit of account that is used as 3) a measure and store of value. What constitutes money and the methods of payments has evolved over time.

Commodity Money

The early money was usually a commodity that had intrinsic value, such as gold, silver, cattle, and seeds. Around the 18th century, "commodity-backed" money appeared. These were pieces of paper (e.g. gold certificates) that could be exchanged for a fixed amount of the underlying commodity (e.g. gold). The advantages of commodity-backed money were its portability and the fact that large amounts of value could be transferred by a single piece of paper.

Fiat Money

Fiat money is any legal tender designated and issued by a central government authority. In the United States, fiat money is legal tender that consists of United States coins and currency (including Federal Reserve notes and circulating notes of Federal Reserve Banks and national banks) that can be used to pay for all debts, public charges, taxes, and dues. Foreign gold and silver coins are not legal tender for debts. Fiat money does not mean that the dollars or fractions of dollars must equal something having intrinsic or substantive value.

Methods of payments gradually evolved from coins and currency to electronic checks, credit cards, stored value cards, smart cards, and various forms of electronic payments via the Internet, land line phones, and mobile phones. Some of these methods have biometric security devices (e.g. finger prints, iris scan, voice recognition) for security purposes. According to the Board of Governors of the Federal Reserve system in the United States, there is "no Federal statute mandating that a private business, a person, or an organization must accept U.S. currency or coins as payment for goods or services. Private businesses are

free to develop their own policies on whether to accept cash unless there is a state law which says otherwise."

Virtual Currency

Virtual currency is a medium of exchange that operates like a currency in some environments but does not have all of the attributes of real currency. In particular, virtual currency does not have legal tender status in any jurisdiction. Therefore, under the Bank Secrecy Act, virtual currency does not meet the criteria to be considered currency because it is not legal tender. Nevertheless, it acts as a substitute for real currency and can be exchanged for real currency. Virtual currencies are also referred to as fiduciary currencies, which means that they have no intrinsic value (i.e. they are not backed by gold, silver, oil, wheat, or other commodities), and their value is determined by government fiat or the market price.

There are many different virtual currencies. For example, World of Watercraft (WoW) Gold, is used in a game designed by Blizzard Entertainment, and Linden Dollars are used in Second Life, a virtual community in an online game. Facebook Credits (FB) can be used to buy virtual goods on the Facebook platform, and Frequent-Flyer loyalty programs offer vouchers and bonus points that can be exchanged for flights.

Bitcoin

Bitcoin is a decentralized or person to person (P2P) virtual currency available in the United States and other countries for use in online transactions. Bitcoins can also be traded on an exchange or through private transactions. Bitcoins are stored in an online wallet by companies like Blockchain, My Wallet, and Coinbase that provide safekeeping services. The Bitcoin balances in online wallets are a matter of public record that can be accessed by a number stored in physical representations of Bitcoins, called tokens. The wallets also have a private key that is used for transferring Bitcoins. The payment transactions are recorded and shared in a public ledger called a "block chain" that is shared by all nodes participating in the system; this assures that the same Bitcoins cannot be spent twice. Bitcoin is a cryptocurrency, which means that it relies on complex cryptographic software protocols to generate the currency and to validate transactions.

Bitcoin was created in 2008 or 2009 by Satoshi Nakamoto, who wrote a paper entitled "Bitcoin: A Peer-to-Peer Electronic Cash System." The system allows payments to be sent directly from one party to another anonymously, without going through a financial institution or keeping records of the transactions. Previously, payers had to rely on third-party services such as MasterCard or PayPal to make the payments and keep records of the transactions.

Being a peer-to-peer network, Bitcoin depends on its users, who are called miners, to create the currency units and verify transactions. In other words, it is a decentralized system with no central monetary authority. Bitcoins are created or "mined" by computers solving increasingly complex math problems (i.e. algorithms) that verify the sequence of data (i.e. the block) that are linked together and are recorded in a public ledger known as the "block chain." The miners are rewarded with transactions fees. The system was designed so that the maximum number of Bitcoins that can be mined is 21 million, and the system will cease operation in 2140.

Findings of the Paper

What constitutes money and the method of payments has evolved continuously since 2200 BC. Commodities, such as gold and silver, were replaced by commodity-backed paper money. Next came fiat money (i.e. U.S. coins and currency), which was first issued in the United States in 1690. Subsequently, the methods of payments evolved from currency to checks, credit cards, and various forms of electronic payments. The latest innovation is virtual currencies that operate like currency, but do not have all of the attributes of real currency. For example, U.S. currencies are "legal tender" for all public and private debts, but virtual currencies do not have that status. Nevertheless, virtual currencies have attributes that make them attractive for both legal and illegal activities. These include but are not limited to user anonymity, low user costs, accessibility through the Internet, and irrevocable transactions.