1. What is money? From commodities to virtual currencies/Bitcoin*

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"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. This chapter focuses on money and payments in the United States. Laws and regulations that are applicable in the U.S. may not apply in other countries, and vice versa.

COMMODITY MONEY

Some forms of money were being used as early as 2200 BC, but the forms of money have changed considerably since then.[1] The early money was usually a commodity that had intrinsic value, such as gold, silver, cattle, and seeds. Around the eighteenth century, "commodity-backed" money appeared. These were pieces of paper (for example, gold certificates) that could be exchanged for a fixed amount of the underlying commodity (for example, gold). The advantages of commodity-backed money are that they were portable and large amounts of value could be transferred on a single piece of paper.

FIAT MONEY

Over time, commodity-backed money was replaced by "fiat' money. Fiat money is any legal tender designated by and issued by a central government authority. In the United States, fiat money is legal tender which 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. Fiat money does not mean that the dollars or fractions of dollars must equal something having intrinsic or substantive value.[2]

In 1863, President Abraham Lincoln enacted the National Banking Act to establish a national banking system and a uniform national currency. It also provided for the sale of government bonds to help finance the Civil War and it allowed National Banks to issue "notes" (that is, currency). The National Banking Act was originally known as the National Currency Act.

The "National Currency Era," allowing National banks to issue currency, came to an end in 1935 as currency was consolidated into Federal Reserve Notes, United States Notes, and Silver Certificates.[3] Finally, foreign gold and silver coins are not legal tender for debts.[4]

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."[5] For example, a gas station may refuse to take bills larger than $20 to buy gasoline.

The first fiat money issued in the United States was in 1690. The Massachusetts Bay Colony, one of the original 13 colonies, issued paper money to cover the costs of their military expeditions.[6] The issuance of paper notes spread to the other colonies, and in 1739, Benjamin Franklin's printing company in Philadelphia printed notes with complex patterns cast from actual leaves that were difficult to counterfeit.

In 1775, the Continental Congress issued paper currency – Continental Currency to finance the Revolutionary War. However, the Continental Currency was denominated in Spanish milled dollars, it had no backing from the government, and they were easily counterfeited. As a result of these shortcomings, they declined in value.

The Coinage Act of 1792 created the U.S. Mint, and established a federal monetary system with coins backed by gold, silver, or copper.

In 1861, Congress authorized the Treasury to issue non-interest-bearing Demand Notes that were called "greenbacks," because of their color. All U.S. currency printed since then remains valid, and is redeemable at full face value.

Subsequently, the methods of payments gradually evolved from coins and currency to electronic checks, e-mails, credit cards, stored value cards, smart cards, and various forms of electronic payments (for example, Internet, land line, and mobile phone). Some of these methods have biometric security devices (for example, finger prints, iris scan, or voice recognition) for security purposes.[7]

Some people have argued that credit cards are not suitable for internet commerce.[8] First, it is cost prohibitive for most internet merchants to accept credit card payments. Second, the credit card network rules are draconian, and chargeback rates in certain industries may be as much as 30 percent. Third, the information flow about settlements is too slow (that is, what is settled, what is not settled, what is being charged back). Fourth, there are too many redundant steps involved in the process. Fifth, "and probably and most importantly . . . there's no proper authentication system. So if I go to do business on the internet, there's no way to authenticate that I am who I say I am."[9] Also, when it comes to dispute resolution, there are substantially different rights when using a Visa branded credit card versus using a Visa branded debit card for internet purchases. Consumer rights under credit card Regulation Z are different than consumer rights under debit card Regulation E.

VIRTUAL CURRENCIES

In recent years, there has been growth of virtual currencies. The Financial Crimes Enforcement Network (Fin CEN) distinguishes "real" currency from "virtual currency." A "real" currency is coin and paper money of the United States or of any other country that (1) is designated as legal tender and (2) circulates and (3) is customarily used and accepted as a medium of exchange in the country of issuance.[10]

In contrast to a real 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.[11] Under the Bank Secrecy Act, virtual currency does not meet the criteria to be considered "currency" because it is not legal tender.[12] Nevertheless, it acts as a substitute for real currency and can be exchanged for real currency.[13]

Virtual currencies are also referred to as "fiduciary currencies," which means that they have no intrinsic value (that is, they are not backed by gold, silver, oil, wheat, or other commodities), and their value is determined by government fiat or the market price.[14]

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 is used in Second Life, a virtual community in an online game.[15] Facebook Credits (FB) can be used to buy virtual goods on the Facebook platform, and Frequent-Flyer loyalty programs in the form of vouchers and bonus points can be exchanged for flights.[16]

Bitcoin is a virtual currency that will be discussed in detail shortly. The main focus here is on virtual currency schemes used for electronic money to buy goods and services and for other purposes.[17]

The features of virtual currencies are:[18]

- The user can remain relatively anonymous.
- It is relatively easy to use.
- The fees may be low.
- It is globally accessible through the Internet.
- It serves as both a store of value and can be used to transfer values both domestically and internationally.
- There are few transaction limits.
- It is generally secure.
- The transactions are irrevocable.
- Some system may have been created to facilitate money laundering.
- It is decentralized, with no central administrator to maintain records or report suspicious financial activities.
- It can be used to exploit the weaknesses in the anti-money laundering/counter terrorism regimes in various countries.

Convertible virtual currencies can be "centralized" or "decentralized." The centralized virtual currencies have a centralized repository and a single administrator who exchanges the virtual currency for real currency or funds, or vice versa. Decentralized virtual currencies do not have a centralized repository or single administrator. The value is electronically transmitted between the buyer and the seller of the currency. In all fairness, it must be pointed out that any currency can be used for both legal and illegal purposes. Recent U.S. Senate Hearings focus on the illegal activities of digital currencies.

The Silk Road was an online market place where many illegal products and services were sold via Bitcoin over more than a two-and-a-half year period.[19] The most popular products were illegal drugs, and forged documents such as passports. "Silk Road was used by several thousand drug dealers and other unlawful vendors to distribute hundreds of kilograms of illegal drugs and other illicit goods and services to well over a hundred thousand buyers, and to laundering hundreds of millions of dollars from these unlawful transactions."[20] It was also known for gun running and murder for hire. Approximately $1.2 billion in transactions were made through the Silk Road.

Liberty Reserve, a currency-transfer and payment processing company based in Costa Rica, allowed customers to move money anonymously. It is another example of how an anonymous currency processor was used to facilitate part of an alleged $6 billion money laundering operation that was used by criminals to engage in various frauds, drug trafficking, child pornography, and money laundering.[21] Liberty Reserve processed transactions worth approximately $8 billion over the 12-month period preceding October 2013; however, this measure may be artificially high due to the extensive use of automated layering in Bitcoin transactions. By way of comparison, "in 2012, Bank of America processed $244.4 trillion in wire transfers, Western Union made remittances totaling approximately $81 billion . . . According to the United Nations Office on Drugs and Crime (UNDOC) . . . the amount of all global criminal proceeds available for laundering through the financial system in 2009 was $1.6 trillion."[22]

BITCOIN

Bitcoin is a "decentralized" or person to person (P2P) virtual currency in the United States and in some other countries for use in online transactions. Bitcoins can also be traded on an exchange or traded privately.

Bitcoins are stored in an online wallet by companies such as Blockchain, My Wallet, and Coinbase that provide safekeeping services. The Bitcoin balances in the online wallets are a matter of public record that can be accessed by a number stored in physical representations of Bitcoins, called tokens. However, the wallets also have a private key that is used for transferring Bitcoins. The payment transactions are recorded and shared in a pubic ledger called a block chain that is shared by all nodes participating in the system so that Bitcoins cannot be spent twice.[23]

Bitcoin is also a "cryptocurrency" which means that it relies on complex cryptographic software protocols to generate the currency and validate transactions.[24] Other cryptocurrencies include, but are not limited to, Litecoin, Peercoin, Namecoin, and Bbqcoin.[25] In addition, there are Amazon Coins, Ripple, OpenCoin, MintChip, and Linden Dollars.[26] Finally, there are other anonymous Internet payment schemes, such as Moscow-based WebMoney, Perfect Money based in Panama, and CashU which serves the Middle East and North Africa.[27]

Some businesses in the United States accept Bitcoins.[28] It is recognized by Germany as "private money."[29] In China, individuals can trade in Bitcoins, but they cannot be exchanged for real currency at Chinese banks. In Finland, it is considered a "commodity," and it is accepted by some businesses.[30] In Canada and Norway, Bitcoin is legal, but it is not legal tender.[31] Bitcoin is banned in Thailand.[32] And virtual currencies are illegal in Russia.[33]

Bitcoin was created in 2008 or 2009 by one or more people using the name Satoshi Nakamoto who wrote a paper entitled "Bitcoin: a peer-to-peer electronic cash system."[34] The system allows payments to be directly sent from one party to another anonymously, and 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.

Bitcoin offers users a low cost global payment standard, and an easy way to transact business across national borders. It also offers privacy. Moreover, it cannot be easily confiscated by a government which makes it attractive to criminals, including drug dealers.[35] This brought it to the attention of Financial Crimes Enforcement Network (FinCEN), the Department of Justice, and other government agencies.[36] Under FinCENs rules, "1) anyone who accepts and transmits a convertible virtual currency, or 2) buys or sells convertible currency for any reason ***is*** a money transmitter" under the Bank Secrecy Act (BSA).[37] The definition does not differentiate between real and virtual currencies. However, the definition does have some exclusions.[38] For example, futures commission merchants that are registered with and regulated by the Commodities Futures Trading Commission are excluded.

The online transactions are denominated in Bitcoins, which derive their value in an open market, and the price/value is highly volatile. Bitcoins began trading at less than 5 cents in 2010, and subsequently soared to more than $1200 in 2013.[39] It was $535 in February 2014.[40] Bitcoins are actively traded on the Mt. Gox currency exchange in Tokyo, Japan and the China-based BTC exchange.[41] Mt. Gox's "multiple currency markets allow users to purchase and resell their Bitcoins in up to 16 different currencies, along with the ability to securely store Bitcoins in a virtual 'vault' for safe keeping."[42] However, Mt. Gox filed for bankruptcy in Japan after 850 000 customers and the exchange's Bitcoins worth about $425 million at current prices disappeared.[43] It also filed for Chapter 15 Bankruptcy protection in Dallas, Texas, where it stored some of its data on computer servers.[44]

Bitcoins can also be traded on Bitstamp, located in Reading, United Kingdom and in the Republic of Slovenia.[45]

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 (that is, algorithms) that verify the sequence of data (that is, the block) that are linked together and are recorded in a public ledger known as the "block chain." The system was designed so that the maximum number of Bitcoins that can mined is 21 million, and the system will cease in 2140.[46] The miners are rewarded with transactions fees.

Because Bitcoin payments are peer to peer, the transaction costs are lower than if they had to go through a third party intermediary. This makes Bitcoin attractive to some cost-conscious small businesses and for those who want to send low-cost remittances to relatives living in developing countries.

RoboCoin is the first Bitcoin Automatic Teller Machine (ATM).[47] It allows one to buy and sell Bitcoins on a RoboCoin ATM.

Gavin Andreson is the chief scientist for Bitcoin. In an interview for *The Wall Street Journal*, he said that Bitcoin is "still an experiment, and only invest time or money you could afford to lose."[48]

CONCLUSION

What constitutes money and methods of payments have evolved continuously since 2200 BC. Commodities such as gold and silver were replaced by "commodity-backed" paper money. Next came "fiat" money (that is, U.S. coins and currency) that 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 they do not have all of the attributes of real currency. For example, U.S. currencies are "legal tender" for all debts public and private, 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 though the Internet, irrevocable transactions, and other factors. In addition, the value of virtual currencies such as Bitcoin is volatile.

Bitcoin is the most successful of more than a dozen other virtual currencies that are used globally for both legal and illegal activities. Thus, Canada, China, Germany, Norway, Thailand, the United States and other countries have different laws applying to the virtual currencies.

The evidence suggests that virtual currencies – Bitcoins and others – will be play an increasing role in payments system, not just in the U.S., but worldwide. According to CoinDesk, they are being used in North and South America, Europe, Africa, and Asia.[49] The number of companies accepting Bitcoins in November 2013 soared from 552 to more than 1000. "useBitcoins.info" reported more than 2000 businesses using Bitcoins worldwide.[50]

Caveat Emptor! (Let the buyer beware!)

NOTES

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