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A CONCEPTUAL STUDY ON DIGITIAL ASSET

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Abstract
This paper explains the type of digital currency, which referred as Bitcoin. It discusses about the important characteristics and how it differs from conventional currency. It also explains about its evolution, economic value and risks.

Introduction

MEANING OF 'Bitcoin':
Bitcoin is a type of digital currency. It was created as an electronic transaction by Satoshi Nakamoto (software developer) in the year 2009 and was transacted at low cost. It is not regulated under any regulatory body. It is not in Physical form such as rupee or euros. It is produced simultaneously by many people with the help of computer all over the world.

Evolution of bitcoin

Aug. 18, 2008: The domain name bitcoin.org is registered. Today, at least, this domain is "Who is Guard Protected," meaning the identity of the person who registered it is not public information.

Oct. 31, 2008*:* Someone using the name Satoshi Nakamoto makes an announcement on The Cryptography Mailing list at metzdowd.com. The working on a new electronic cash system that's fully peer-to-peer, with no trusted third party. This link leads to the now-famous white paper published on bitcoin.org entitled "Bitcoin: A Peer-to-Peer Electronic Cash System." This paper would become the Magna Carta for how Bitcoin operates today.

Jan. 3, 2009*:* The first Bitcoin block is mined, Block 0. This is also known as the "genesis block" and contains the text: "The Times 03/Jan/2009 Chancellor on brink of second bailout for banks," perhaps as proof that the block was mined on or after that date, and perhaps also as relevant political commentary.

Jan. 8, 2009*:* The first version of the Bitcoin software is announced on The Cryptography Mailing list.

Jan. 9, 2009*:* Block 1 is mined, and Bitcoin mining commences in earnest. Numerous people have been suggested as possible Satoshi Nakamotos by major media outlets.

Oct. 10, 2011: The New Yorker published an article speculating that Nakamoto might be Irish cryptography student Michael Clear, or economic sociologist Vili Lehdonvirta. A day later, Fast Company suggested that Nakamoto could be a group of three people-Neal King, Vladimir Oksman and Charles Bry-who together appear on a patent related to secure communications that was filed two months before bitcoin.org was registered. A Vice article published in May 2013 added more suspects to the list, including Gavin Andresen, the Bitcoin project's lead developer; Jed McCaleb, co-founder of now-defunct Bitcoin exchange Mt.Gox; and famed Japanese mathematician Shinichi Mochizuki.

December, 2013: Techcrunch published an interview with researcher Skye Grey who claimed textual analysis of published writings shows a link between Satoshi and bit-gold creator Nick Szabo. And perhaps most famously, in March 2014, Newsweek ran a cover article claiming that Satoshi is actually an individual named Satoshi Nakamoto – a 64-year-old Japanese-American engineer living in California. The list of suspects is long, and all the individuals deny being Satoshi.

March 2014: The IRS stated that all virtual currencies, including bitcoins, would be taxed as property rather than currency. Gains or losses from bitcoins held as capital will be realized as capital gains or losses, while bitcoins held as inventory will incur ordinary gains or losses.

Like any other asset, the principle of buying low and sell high applies to bitcoins. The most popular way of amassing the currency is through buying on a Bitcoin exchange, but there are many other ways to earn and own bitcoins.

Printer of bitcoin

Bitcoin currency is not physically printed by a central authority i.e. a Bank, unanswerable to the Users. Bitcoin produced by an individual is known as BITCOIN MINING. A bitcoin can be divided into smaller portions with the smallest amount being one hundred millionths of a bitcoin and known as a 'Satoshi', named after the creator of bitcoin.

Basis of bitcoin

Conventional currency is fully based on gold or silver. It can be easily converted into Rupee or dollar in a physical form. But Bitcoin is purely based on Mathematics Around the world; people are using specialized software which is following a specific mathematical formula to mine bitcoins. The formula is an open source so anyone can view it. The software code is also open source so anybody can verify it.

Characteristics of bitcoin

- Bitcoins are not stored by one central authority. Any machine that processes bitcoin transaction and mining can be a part of the controlling network and all the machines work together. Central authority has no right to interfere with working of Bitcoin and its policies to cause a meltdown or take away the bitcoins. If a part of a network stops working and goes offline, the rest of the process keeps on happening.
- A normal bank will require you to fulfill many pre requisites and paper work before opening even a simple bank account. In case of bitcoin, an account can be opened to operator, it requires a mere second.
- A user can have multiple bitcoin addresses, and the information linking isn't personal like names, addresses etc.
- Bitcoin is extremely stringent in storing the details of every single transaction that ever happened in its gigantic version a ledger, known as block chain. The block chain has all type of information.
- No charge for International transfer..
- Risk is very high for the transaction through Bitcoin.

Functions of bitcoin

Bitcoin is one of the first digital currencies to use peer-to-peer technology to facilitate instant payments. The independent individuals and companies who own the governing computing power and participate in the Bitcoin network, also known as "miners," are motivated by rewards and transaction fees paid in bitcoin. These miners can be thought of as the decentralized authority enforcing the credibility of the Bitcoin network. New bitcoin is being released to the miners at a fixed, but periodically declining rate, such that the total supply of bitcoins approaches 21 million. One bitcoin is divisible to eight decimal places (100 millionth of one bitcoin), and this smallest unit is referred to as a Satoshi. If necessary, and if the participating miners accept the change, Bitcoin could eventually be made divisible to even more decimal places.

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Bitcoin mining is the process through which bitcoins are released to come into circulation. Basically, it involves solving a computationally difficult puzzle to discover a new block, which is added to the blockchain, and receiving a reward in the form of few bitcoins. The block reward was 50 new bitcoins in 2009; it decreases every four years. As more and more bitcoins are created, the difficulty of the mining process – that is, the amount of computing power involved – increases. The mining difficulty began at 1.0 with Bitcoin's debut back in 2009; at the end of the year, it was only 1.18. As of April 2017, the mining difficulty is over 4.24 billion. Once, an ordinary desktop computer sufficed for the mining process; now, to combat the difficulty level, miners must use faster hardware like Application-Specific Integrated Circuits (ASIC), more advanced processing units like Graphic Processing Units (GPUs), etc.

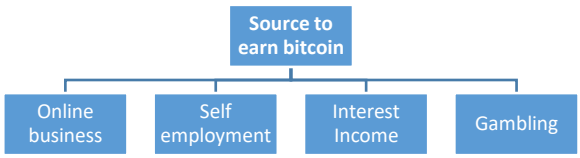
Economic value of bitcoin

As of April 2017, one bitcoin is worth $1,223 – a considerable jump from late 2016, when it was around $770. Bitcoin's price is also quite dependent on the size of its mining network, since the larger the network is, the more difficult – and thus more costly – it is to produce new bitcoins. As a result, the price of bitcoin has to increase as its cost of production also rises. The Bitcoin mining network's aggregate power has more than tripled over the past twelve months.

Investing in bitcoins

There are many Bitcoin supporters who believe that digital currency is the future. Those who endorse it are of the view that it facilitates a much faster, no-fee payment system for transactions across the globe. Although it is not itself any backed by any government or central bank, bitcoin can be exchanged for traditional currencies; in fact, its exchange rate against the dollar attracts potential investors and traders interested in currency plays. Indeed, one of the primary reasons for the growth of digital currencies like Bitcoin is that they can act as an alternative to national fiat money and traditional commodities like gold.

Different source to earn bitcoins



Online business

Bitcoins can be accepted as a means of payment for products sold or services provided. If you have a brick and mortar store, just display a sign saying “Bitcoin Accepted Here” and many of your customers may well take you up on it; the transactions can be handled with the requisite hardware terminal or wallet address through QR codes and touch screen apps. An online business can easily accept bitcoins by just adding this payment option to the others it offers, like credit cards, PayPal, etc. Online payments will require a Bitcoin merchant tool

Self employment

Those who are self-employed can get paid for a job in bitcoins. There are several websites/job boards which are dedicated to the digital currency:

Interest income

Another interesting way (literally) to earn bitcoins is by lending them out, and being repaid in the currency. Lending can take three forms – direct lending to someone you know; through a website which facilitates peer-to-peer transactions, pairing borrowers and lenders; or depositing bitcoins in a virtual bank that offers a certain interest rate for Bitcoin accounts.

Gambling

Income earn through various other sources such as online lotteries, jackpots, spread betting and other games.

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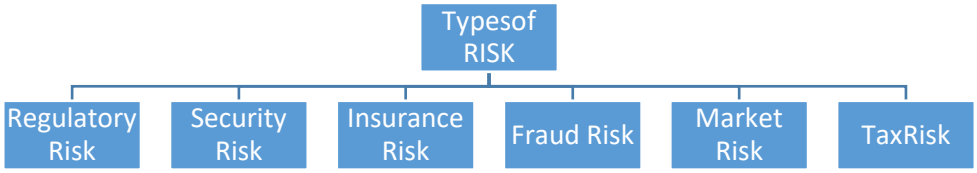
Risks of investing in bitcoins

Bitcoin was not designed as a normal equity investment through shares some speculative investors were drawn to the digital money after it appreciated rapidly in May 2011 and again in November 2013. Thus, many people purchase bitcoin for its investment value rather than as a medium of exchange. But their lack of guaranteed value and digital nature means the purchase and use of bitcoins carries several inherent risks. Many investor alerts have been issued by the Securities and Exchange Commission (SEC), the Financial Industry Regulatory Authority (FINRA), the Consumer Financial Protection Bureau (CFPB), and other agencies.

The concept of a virtual currency is still novel and, compared to traditional investments, Bitcoin doesn't have much of a longterm track record or history of credibility to back it. With their increasing use, bitcoins are becoming less experimental every day, of course; still, after eight years, they (like all digital currencies) remain in a development phase, still evolving. "It is pretty much the highest-risk, highest-return investment that you can possibly make," says Barry Silbert, CEO of Digital Currency Group, which builds and invests in Bitcoin and blockchain companies.



Regulatory Risk

Bitcoins are a rival to government currency and may be used for black market transactions, money laundering, illegal activities or tax evasion. As a result, governments may seek to regulate, restrict or ban the use and sale of bitcoins, and some already have. Others are coming up with various rules. For example, in 2015, the New York State Department of Financial Services finalized regulations that would require companies dealing with the buy, sell, transfer or storage of bitcoins to record the identity of customers, have a compliance officer and maintain capital reserves. The transactions worth $10,000 or more will have to be recorded and reported.

Although more agencies will follow suit, issuing rules and guidelines, the lack of uniform regulations about bitcoins (and other virtual currency) raises questions over their longevity, liquidity and universality.

Security Risk

Bitcoin exchanges are entirely digital and, as with any virtual system, are at risk from hackers, malware and operational glitches. If a thief gains access to a Bitcoin owner's computer hard drive and steals his private encryption key, he could transfer the stolen Bitcoins to another account. Hackers can also target Bitcoin exchanges, gaining access to thousands of accounts and digital wallets where bitcoins are stored. One especially notorious hacking incident took place in 2014, when Mt. Gox, a Bitcoin exchange in Japan, was forced to close down after millions of dollars worth of bitcoins were stolen.

This is particularly problematic once you remember that all Bitcoin transactions are permanent and irreversible. It's like dealing with cash: Any transaction carried out with bitcoins can only be reversed if the person who has received them refunds them. There is no third party or a payment processor, as in the case of a debit or credit card – hence, no source of protection or appeal if there is a problem.

Insurance Risk

Some investments are insured through the Securities Investor Protection Corporation. Normal bank accounts are insured through the Federal Deposit Insurance Corporation(FDIC) up to a certain amount depending on the jurisdiction. Bitcoin exchanges and Bitcoin accounts are not insured by any type of federal or government program.

Fraud Risk

Bitcoin uses private key encryption to verify owners and register transactions, fraudsters and scammers may attempt to sell false bitcoins. For instance, in July 2013, the SEC brought legal action against an operator of a Bitcoin-related Ponzi scheme.

Market Risk

Like other investment, Bitcoin values can fluctuate. Indeed, the value of the currency has seen wild swings in price over its short existence. Subject to high volume buying and selling on exchanges, it has a high sensitivity to "news." According to the CFPB, the price of bitcoins fell by 61% in a single day in 2013, while the one-day price drop in 2014 has been as big as 80%.

If fewer people begin to accept Bitcoin as a currency, these digital units may lose value and could become worthless. There is already plenty of competition, and though Bitcoin has a huge lead over the other 100-odd digital currencies that have sprung up, thanks to its brand recognition and venture capital money, a technological break-through in the form of a better virtual coin is always a threat.

Tax Risk

As bitcoin is ineligible to be included in any tax-advantaged retirement accounts, there are no good, legal options to shield investments from taxation.

Contribution to coindesk's

In the year 2017, G7 central banks are sluggish traders that buy and sell the same foreign currencies, marketable securities, special drawing rights (SDR) and gold day in and day out.

Central bank traders follow the investment policy enforced by the executive committees with specific asset allocation targets. In order of importance, the objective for foreign reserves trading generally is liquidity, security and returns (in last place).

Currently, the G7 is only concerned with the "appropriate regulation" of crypto currencies and not with the asset class potential of crypto currencies. Bitcoin, ether and zcash are nowhere to be found on the list of eligible instruments and currencies that central bankers are allowed to trade.

In 2018, things will be different. G7 central banks will start buying crypto currencies to bolster their foreign reserves.

Eruption of bitcoin in 2018

A turning point for G7 central banks will be when the bitcoin market capitalization exceeds the value of all SDR's that have been created and allocated to members (approximately $291 billion).

Another tipping point will be the realization that the values of G7 currencies are devaluing against crypto currencies. The SDR and G7 country will be forced to alter their foreign reserve weightings and eventually include a basket of crypto currencies

As per the prediction of Prescient Christine Lagarde, managing director of the IMF, crypto currency causing massive disruptions to the conventional currency.

Foreign exchange reserves are used to back a nation's domestic currency. Fiat currencies are pieces of paper or coinage that inherently do not have value. If anything the currency is backed by the shared belief of participants in a country's currency scheme. When a central bank from a G7 country like Japan purchases foreign exchange reserves of the United States (US dollars) the shared belief of the U.S. dollar advertently becomes shared with the Japanese people.

In 2018, G7 central banks will witness bitcoin and other crypto currencies becoming the biggest international currency by market capitalization. This event, together with the global nature of crypto currencies with 24/7 trading access, will make it intuitive to own crypto currencies as they become a de-facto investment as part of a central banks investment tranche. Crypto currencies will also fulfill a new requirement as digital gold.

Furthermore, foreign reserves are used to facilitate international trade. This means holding reserves in a trading partner's currency makes trading simpler. In 2018, crypto currencies like bitcoin will be utilized for international trade on a moderate basis because the high returns as an investment will encourage a 'hold' strategy for G7 countries.

Foreign reserves are also used as monetary policy tool. Central banks may pursue the option to sell and buy foreign exchange currencies to control exchange rates. In 2018, central banks will start realizing that monetary policy for a global market in crypto currency is not achievable. G7 central banks will purchase crypto currencies as a hedge to the performance of their economy.

Conclusion

Bitcoin is a popular virtual currency and part of a trend toward currency digitalization and decentralization. For some economists, the underlying technology is promising and has a future but they are more skeptical about the currency itself. For many investors, price volatility signals that bitcoin is not a stable currency which makes it a risky investment. Price volatility is a problem as central banks cannot step in to print more money to meet demand. High price volatility is mainly due to the inelastic money supply. Some experts believe that bitcoin has a future if there is some central authority to control money supply. In any case, bitcoin is a radically new system and currency and an innovative way to invest, trade, and exchange value. Digital currencies are a work in progress like many other inventions of their time.

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