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Bitcoins - Here Today, Gone Tomorrow?

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Bitcoins- Here Today, Gone Tomorrow?

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Introduction:

The Bitcoin is perhaps the most interesting form of currency currently circulating throughout the entire world. Though Bitcoins have no physical presence, the web-based currency has been globally recognized and exchanged since its debut on August 18th, 2008. (Bitcoin Tops $1,000 as Virtual Money Gains Popularity) However, some publicity has negatively affected the currency. Bitcoins have been completely banned in certain countries, with many more seriously considering similar restrictions. With over 12.75 million Bitcoins currently in circulation and millions still left undiscovered, many believe Bitcoins are the future for all online transactions. (Bitcoin Total Bitcoins In Circulation) Countries that still tolerate the exchange of the currency have been adapting to the drastic changes by imposing rules and regulations regarding its purchasing power. Perhaps the greatest indication of the Bitcoin's success lies within the price it reached just recently in November and December of 2013. Completely outperforming many analysts' expectations, the price per Bitcoin was comfortably lingering over $1,000. (Bitcoin Tops $1,000 as Virtual Money Gains Popularity) This shows tremendous development compared to the first Bitcoin transaction in 2009 exchanging a pizza for 10,000 Bitcoins. With today's current market price, the pizza would cost roughly $5.85 million- a bit more than the average consumer is looking to spend on dinner. Though Bitcoins are not backed by any currency reserve, investors still realize their value due to their finite supply. Bitcoins are discovered through a series of complex

algorithms that ultimately reveal their hiding spots on the web. Because this process requires mass amounts of computing power as well as labor hours, these coins are perceived as valuable. Recently, Bitcoins have been experiencing extreme fluctuation in price as their future remains unknown.

Background of Currency:

The Bitcoin has been growing in popularity since its debut in 2008. The concept of the currency is based off the work of Wei Dai who dreamed of creating a new form of money that uses cryptography to control its production rather than using a central authority distribution. After failing in 1998 to make these dreams a reality, the first Bitcoin emerged some 11 years later being recognized and published by a man named Satoshi Nakamoto. (Frequently Asked Questions) Though the creator of the web-based currency has never truly come fourth, many have accused Nakamoto seeing he was a vital part of the first transaction to ever be recorded. Industry rumors indicate that Nakamoto denies these accusations in order to further protect the value of the Bitcoin. (Who Owns the World's Biggest Bitcoin Wallet? The FBI | Enterprise) Enthusiasts also claim that Nakamoto is the holder of over one million Bitcoins that were mined during the early development and introduction life cycle stage of the currency. Perhaps the reason why Nakamoto attempts to keep his transaction history secretive is to help retain investor's positive perception of the currency. If he was the creator like many people believe he is, his large personal gain from its success may leave many potential users

skeptical. As previously mentioned, Bitcoins are not backed by any treasury reserve, ultimately leaving their value to be perceived by public judgment. When major holders of the currency decide to sell them for paper currency, it shows a lack of confidence in its future as well as liquidity. Another large holder of the Bitcoin are former Facebook inventors Tyler and Cameron Winklevoss. These Harvard graduates currently hold around 1% of all Bitcoins in circulation, leaving their behavior extremely influential similar to Nakamoto's. (Who Owns the World's Biggest Bitcoin Wallet? The FBI | Enterprise) If the major holders of the Bitcoin were to turn around and completely sell their share, there is a strong chance that the currency would deflate and be worthless. This behavior is similar to that of stocks. Price is negatively affected when consumers see a large portion of the outstanding Bitcoins up for sale, making Bitcoins an overall risky investment.

Secured Currency:

To further protect the online currency, the release of Bitcoins is regulated each year. These restrictions are similar to those set on normal currency using paper documents as a representation. The laws of supply and demand have proven that too much of something will eventually leave it worthless. With this being said, the creators of the Bitcoin have decided to cap the amount worldwide at 21 million. (Coinbase) This means there will only be 21 million to ever exist to assist in adding value due to it's finite availability. This production is efficient because it has no raw material expenses. The Bitcoins are released at a controlled rate that gradually

introduces them through a concept called blocks. These blocks are hidden throughout the web for Bitcoin miners to discover, and are only created at a rate of six blocks per hour. These blocks contain an undetermined amount of Bitcoins that fluctuates with time. The amount of Bitcoins within the blocks is set to decrease geometrically, reducing by 50% every four years. (Coinbase) This method and algorithm was chosen because it reflects a similar rate in which commodities such as gold are mined, which gives its release some type of basis. From 2009 to 2012, there were 2.625 million Bitcoins added to the web annually, while from 2013 to upcoming 2016 there will be roughly 1.312 million added annually. As mentioned previously, the rate dropped by approximately 50% after four years of their existence. The currency was most likely created at a higher rate during its introduction stage to assist in growing its popularity amongst the public. Once the Bitcoin starts to mature, like what was planned for 2013 and is planned for 2017, 2021, and 2025, less will be released to help retain their outstanding value.

Figure 1:

Block	Reward Era	BTC/block	Year	Start BTC	BTC Added	End BTC	BTC Increase	End BTC %
0	1	50	2009	0	2625000	2625000		12.50%
52500	1	50	2010	2625000	2625000	5250000	100.00%	25.00%
105000	1	50	2011	5250000	2625000	7875000	50.00%	37.50%
157500	1	50	2012	7875000	2625000	10500000	33.33%	50.00%
210000	2	25	2013	10500000	1312500	11812500	12.50%	56.25%
262500	2	25	2014	11812500	1312500	13125000	11.11%	62.50%
315000	2	25	2015	13125000	1312500	14437500	10.00%	68.75%
367500	2	25	2016	14437500	1312500	15750000	9.09%	75.00%
420000	3	12.5	2017	15750000	656250	16406250	4.17%	78.13%

472500	3	12.5	2018	16406250	656250	17062500	4.00%	81.25%
525000	3	12.5	2019	17062500	656250	17718750	3.85%	84.38%
577500	3	12.5	2020	17718750	656250	18375000	3.70%	87.50%
630000	4	6.25	2021	18375000	328125	18703125	1.79%	89.06%
682500	4	6.25	2022	18703125	328125	19031250	1.75%	90.63%
735000	4	6.25	2023	19031250	328125	19359375	1.72%	92.19%
787500	4	6.25	2024	19359375	328125	19687500	1.69%	93.75%

Figure 1 starts by showing the amount of blocks to be released from 2009-2024. As previously mentioned, these blocks contain a certain amount of Bitcoins that will be rewarded to the miner lucky enough to discover them. The amount yielded per block is determined by the BTC/Block column representing the reward upon discovery. The BTC added column symbolizes the amount of Bitcoins in total to be released in a given year, significantly dropping from their introduction in 2009 to their maturity in the 2020's.

Location:

The process of mining Bitcoins is anything but simple. However, as miners continue to discover their blocks on the web, their methods as well as field experience will continue to improve. Cheaper and quicker algorithm solvers will be created, making Bitcoins easier to find. In order to account for these inevitable adaptions, the Bitcoin system was created to readily adjust its output according to a certain time schedule. Approximately every 2,016 discovered blocks, the system calculates the average time taken for miners to discover the Bitcoin blocks location. As computing power as well as technology continues to advance, so does the Bitcoin system, improving the difficulty level of discovering the blocks. (Coinbase) Miners

have discovered the most efficient way of mining is to combine their computing power together to better compete with rivals. These groups are referred to as pools. Though mining started as an individual practice, it is currently a largely dominated industry by commercial and professional miners due to the necessary amounts of computing power.

Secured Storage:

Once a block is discovered, the yielding Bitcoins are placed in a privately held online Bitcoin specific wallet. The wallet is a program, application, or service that secures the Bitcoins and allows users to readily accept or send the currency. These wallets are accessible worldwide, making them both practical and convenient. According to an online source, "With Bitcoin, a wallet doesn't just offer security. It offers bookkeeping, portability and simple ways to give and receive cash." (nakedsecurity.sophos.com) Surprisingly, making and using a Bitcoin wallet is much easier than many people think, however, many have criticized and questioned the security of the exchanges. Creating a wallet requires the user to access a Bitcoin exchange and enter necessary personal information, such as bank account numbers as well as credit reports. With many miners having access to massive computing power mixed with their technologically savvy skills, security breaches for exchanges are a huge threat. If a hacker were successful in stealing the information of thousands of users, Bitcoins would loose popularity and legitimacy. (Bitcoin Wallets: How to Protect Your Digital Currency) However, these wallets are extremely

necessary for Bitcoin transactions. Each wallet holder is given a QR number used to identify the user. When sending a Bitcoin payment, the user is required to enter the QR number of the desired party, which will then promptly send payment.

Growing Popularity:

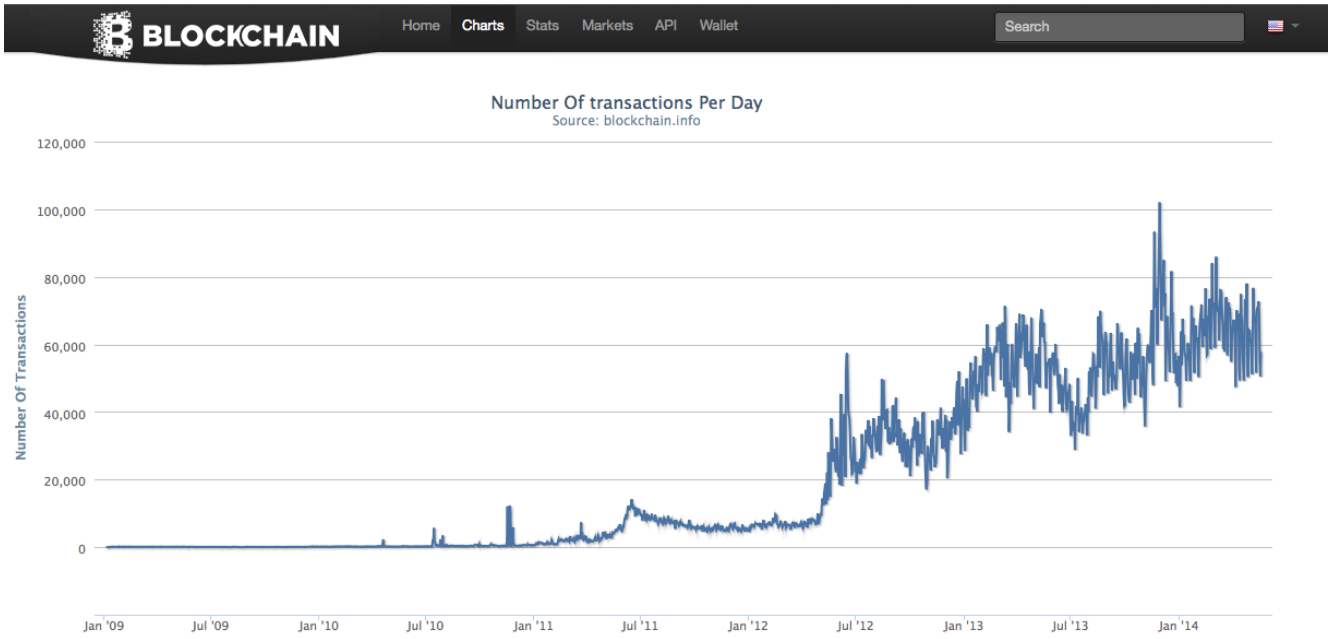
After witnessing the price of Bitcoins soar over the past few years, many online merchants as well as local establishments are starting to accept the currency as payment. A few major examples include Amazon, Paypal, Overstock, Tesla, The Pirate Bay, eGifter, and Zynga. (What Companies Accept Bitcoin?) As more companies join the list, the price of the Bitcoin soars. With more support coming from businesses, the Bitcoin continues to develop leaving investors with high profits. The companies listed above allow a Bitcoin holder to purchase many necessities. These products range from the luxurious fully electric vehicle Tesla supplies, to almost any product one may need on auction websites such as Ebay and Amazon in their secondary consumer to consumer market. Also, eGifter allows a Bitcoin holder to purchase a gift card from almost any well-known manufacturer. This adds liquidity because it allows Bitcoins to be transformed into an acceptable payment form for almost any commodity. Adding to the promotion of Bitcoins is Richard Branson with his Virgin Galactic service that allows an individual to fly into space and pay by Bitcoin. (What Companies Accept Bitcoin?) With people finding more practicality with Bitcoins, it is safe to assume that they are a relatively

worthwhile investment. As long as product and service providers continue to realize their value, they will continue to prosper.

Transaction History:

However, to truly evaluate the success of Bitcoins, we need to study how frequently they are used. Because Bitcoins are the first of their kind, many people are hesitant to use and accept them. People seem avoid the virtual currency seeing that they have no physical presence. According to Figure 2, the number of transactions per day rarely passed 100 globally due to their slow introduction. Obviously, if this continued, Bitcoins would not be what they are today. During February of 2011, the market first broke 1000 transactions in a day and consistently stayed above 8000 in coming months. The online currency did not seem to fully take off until July of 2012, where it continued to grow to 100,000 transactions per day in January of 2014. (Frequently Asked Questions) The promising trend below shows how Bitcoins have continued to grow in popularity around the world.

Figure 2:



Research has shown that many people refuse to use Bitcoins simply because they do not fully understand them. Because they are a technologically advanced currency, individuals cannot fully grasp their legitimacy. Bitcoins are currently still engaged in the introduction life cycle stage seeing that many people still do not know about them. When the currency grows in popularity, one can expect the number of transactions per day to grow substantially. For example, PayPal currently accounts for 9 million transactions per day. Because PayPal readily accepts Bitcoins, there is plenty of potential for them to grow in popularity.

Price:

The price of Bitcoins has been frequently fluctuating since their introduction in 2009. According to Figure 3, prices have ranged from $0.05 to $1,126.82 in just 3.5 years. In July of 2010, the coin price was under $0.10. (Coinbase)

Figure 3:

Bitcoins are divisible, meaning one is able to send a fraction of a Bitcoin to pay an outstanding debt. Common denominations are .01 BTC, or a centibitcoin, and .001 BTC, a millibitcoin. The smallest denomination currently possible for Bitcoins is .000001, known as the microbitcoin. Divisibility is important because it makes Bitcoins a practical method of payment. If a Bitcoin is currently priced at $500, and an individual wishes to pay a fee of $350, they would not use the entire Bitcoin. Instead, the purchaser would send over a payment of 0.7 Bitcoins to properly cover their expense.

Future and Current Regulation:

Perhaps the biggest threat to the future use of Bitcoins is government regulation. Many countries have already started regulating the use of the currency, with some banning its use altogether. China, for example, is preparing restrictions against the Bitcoin banning banks from allowing Bitcoin companies holding accounts. This would ultimately halt their circulation around China and ban them from the financial system. (China May Be Preparing Harsh New Regulations On

Bitcoin) Though Bitcoin miners within China would still have the opportunity of engaging in foreign markets, the currency is worse off being excluded from one of the biggest economies in the world. There is also still the threat of the currency being completely banned in China similar to Russia's decision. Russian authorities completely outlawed the use of Bitcoins in February of 2014 as a money substitute, claiming the online currency could be used for illegal activities such as money laundering or financing terrorism. Another claim for banning the use according to Russian authorities is to further protect individuals from significant losses due to fluctuating prices. The Russian Bitcoin infrastructure is far less advanced than that of the United States, leaving them far more vulnerable. However, the Central Bank of Russia has not been completely cut off from managing the currency. This was done to help further prepare Russia for the future in case the currency actually does fully mature and become widely accepted. Though Russia is far from becoming an active user of Bitcoins, the opportunity is still present. (Russian Authorities Say Bitcoin Illegal) The only two countries that have completely banned the currency, both amongst its people as well as central banks, are Iceland and Vietnam. Bitcoins are not legally recognized or protected due to their risky characteristics and virtual presence.

Regulation in the United States:

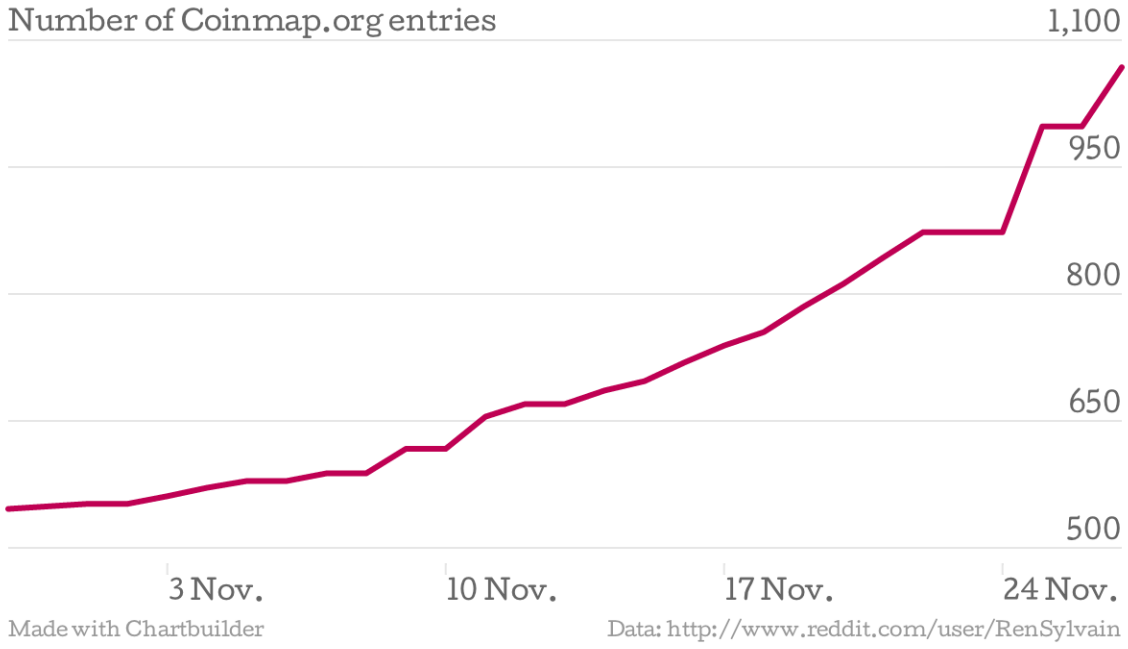
The most active country regarding Bitcoin regulation is the United States. After many hearings, the nation has decided to treat Bitcoins as property rather than a currency, subjecting the use of the currency to capital gains tax. The IRS has also released a statement regarding the mining of Bitcoins. Miners will be subject to

income taxes on the basis of fair market value as of the date of the specific activity (Wikipedia), meaning the immediate price of the Bitcoin after being mined must be necessarily taxed. These are groundbreaking movements for Bitcoin because they are being nationally recognized and accepted by the largest economy in the world. Nations are discovering ways to profit from the use of Bitcoins, leaving them with limited reasons to forbid the decentralized currency.

Conclusion:

Bitcoins still have much more maturing to do before it is considered a legitimate currency. Future plans include introducing them into daily physical transactions, as well as implementing ATM's allowing an individual to transfer their coins into cash. As the Bitcoin continues to mature, it should continue to see success. The more widely accepted these coins become, the more liquidity they hold. Figure 4 shows the growth in 2013 in the month of November alone.

Figure 4:



With continuing promising growth, Bitcoins are clearly a currency to be reckoned with. They provide universal characteristics that are not feasible through paper currency. Bitcoins have been the hot topic of 2013 and have continued to prosper in 2014, making them an interesting as well as risky investment.

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