Azərbaycan Respublikası Təhsil Nazirliyi

Bitcoin and its impacts to the USA economy

Calalov Abdulla

UNEC SABAH

Azərbaycan Dövlət iqtisad Universiteti





May 2018

Declaration

To the best of my knowledge and belief, I, Abdulla Jalalov, declare that this

work is my own work and that I have used no sources other than the ones referred

to, especially no further internet resources. All sources employed have been

properly acknowledged and stated in accordance with the rules and regulations that

apply to the Azerbaijan University of Economics (UNEC). I am aware of the

university's examination regulations related to defraud. I acknowledge that my

submission may be transferred and stored in a database for the purpose of data-

matching to help detect plagiarism.

Signature:

Date:

1. Оглавление

1.	Introduction	7
2.	Literature review	8
3.	The history of the Bitcoin	9
4.	Bitcoin's Supply	12
5.	Schools of Economic Thought	16
6.	Austrian School of Economics	17
7.	Keynesian Economics	19
8.	Bitcoin Ecosystem	21
9.	BASIC ARGUMENTS FOR THE USE OF VIRTUAL CURRENCY	22
10.	Relationship between increasing value of the bitcoin and its popularity	23
11.	Safety of the Bitcoin	26
12.	Is Bitcoin can be an alternative to the PayPal and Visa	28
13.	Is Bitcoin has a deflation problem	29
14.	The problems of the Bitcoin	29
15.	Impacts of the bitcoin to change the global economy	30
16.	The value of the Bitcoin	32
17.	Overview of Bitcoin as a Currency	35

18.	Bitcoin's volatility	38
19.	Government Regulations	41
20.	Bitcoin's Weaknesses	44
21.	Stock exchanges of Bitcoin	47
22.	Research Metodology	49
23.	Conclusion	49
24.	References	50

Abstract

Bitcoin is an innovative digital currency that came out in 2009 and prepared the scene afterwards for numberless cryptocurrencies to circulate in the market. Bitcoin had become an asset used by more individual thanks to its market capitalization, increasing number and volume of transactions day by day and more stabilized market price in this period. Technically, Bitcoin uses an infrastructure called block-chain that includes all transaction logs and let the user to confirm the validity of these transactions. In financial terms, Bitcoin is an asset that has regular fiat money functions such as being a medium of exchange, measure of value, standard of deferred payment and store of value in some way.

At the same time, Bitcoin constitutes a new economy consisting mining firms in the process of minting new currencies, e-wallet applications that keeps the currency securely in individual and institutional accounts, financial services that focus on technical infrastructure and/or provide technical analysis service on market value, exchange markets that serves as a market that ensures the exchange transactions and trades, payment processors that allow usage of the currency as medium of payment in purchase and sale processes and lastly firms that operates at least two of these sub-sectors or more. This new economy brought along new opportunities and has been attracted the venture capital to itself.

This study aims to acquaint about Bitcoin and the related new economy formed by sub-sectors. This study therewithal intends to develop a perspective about the future of this new economy and the main impacts to USA economy and trade.

Acknowledgements

To begin I would like to thank my thesis advisor Orxan Sultanov and express my deep gratitude heartly. I am deeply grateful to my thesis advisor for enabling me to implement my dream of graduating Azerbaijan State Economic University. I am indebt to him that he was always supporting me in this difficult and responsible work. His door was always open to me when I have a problem or not. Without his advice and guidance this thesis paper would have almost been impossible. I would like to mention also his encouragement, inspiration without his help this paper would not have been implemented.

I would like also to show my greatest appreciation to our dear dean Aida Guliyeva. She was always supporting all of her students to do great job. Besides, I am particularly grateful for the assistance of the dean's office and it's helpful employees. They have always helped me when I have a question related rules and conditions of completion of this paper.

Most of all, I am fully indebted to the Azerbaijan State University of Economics. The assistance that I have gained from my university was crucial for me that the rich library and e-library was enabled to use excessively and comprehensively. In addition, for the opportunity created for all students to get valuable knowledge.

Special thanks to my parents ever and also my friends. I am very grateful that they are with me and it feels so good to know that there is always unconditional love and support for you.

1. Introduction

The name of the Bitcoin appeared during the financial crisis of the 2008 which created by Satoshi Nakamoto that described Bitcoin as a payment system and it cannot print into paper. The Bitcoin is the digital currency that exchange products, currencies like USD, EURO, CNY. It is a theory that Nakamoto found solution how take away the financial intermediaries and replaced it a pear-to-pear network. He found solution of the double-spending problem by typing all transactions on a virtual distributed ledger called the blockchain. The Blockchain is known as a cheap, secure and quick without needing to trust to the third parties. These transactions which happens in the Bitcoin are confirmed with the network nodes which computers network connected with the Bitcoin network. These nodes called "miners" because they are essentially compensated in the Bitcoin for confirming all transactions. Compensation in the Bitcoin is works hard that is why The Bitcoin network works. Therefore these nodes works under the computer power. During the one year, Nakamoto create a software for the Bitcoin and made it available for everyone to use.

2. Literature review

With focusing of this study is to clear whether Bitcoin has become a viable alternative to other currencies. I will estimate the economic feasibility of Bitcoin absent considering the risks of the technical issues as described in the previous chapter. To my research and analysis, I have found that Bitcoin's biggest obstacle is not being the functions of a currency but its price volatility. In the last decade, Bitcoin has proven that it can effectively act in the legally gray area, that it can function efficiently without government support and that the currently disinationary nature did not affet to its functions. There is some common definitions that I gave in my work. I am also gave an information of the two main economic school thought and sayings about bitcoin which there is positive and negative thoughts, even they did not reached consensus that bitcoin is money, why bitcoin is money. And the main impacts to the global economies from government side, security, black market, trade, people and so on.

3. The history of the Bitcoin

Although Bitcoin it is the first digital currency was created in 2009, the thoughts about the digital currency comes from 1990s. David Chaum who was a pioneer in the cryptographic protocols wrote a first paper that was emphasized an anonymous payment system that is used blind signatures. Since then, different cryptographers published a number of the academic papers had aim to improve the security and productivity of the digital currencies. There were some ideas that came from digital currencies that they create a platform, company for online system like - Flooz, Digicash, Beenz, E-Gold. Although, shortage of the decentralization, clarity, security cause destruction of all attempts.

After recognition of the first open source code of the Bitcoin ,the initial 50 BTC were mined with the help of Nakamoto himself in order to establish the way to online viewers. Programmer Laszlo Hanyecz, lives in Florida, made a real first Bitcoin transaction which took place in May of 2010 who sent 10,000 BTC to a volunteer who bought two pizzas for Hanyecz which value was 25 USD for him. Today, 10,000 BTC have value of approximately over 10 million USD. The

curiosity among computer enthusiasts led to development of the MT.Gox which is the first bitcoin exchange platform. Before the creation of Mt.Gox, the platform create a way for users in order to mine their own bitcoins. But bitcoin exchange meant that users can buy bitcoin with exchange for other currencies. Mt.Gox can sold BTC and offered 1 BTC with the rate of 4.96 on the first day of trading.

Only in 2010, the vulnerability of the Bitcoin was found out in the verification mechanism that create a way for hackers to find more amounts of the bitcoin. But the code was easily removed from the block-chain. Since then, Hackers understood that it will never hacked by someone even Jamie Smith who is the White House communicator accept these thoughts.

In 2011, Bitcoin become used more all over the countries. The popularity was flashed because Bitcoin is the worldwide, private, has less transaction costs, accounts cannot stopped suddenly and there are not requirement or essential limits. Organizations such as Wiki leaks begin to accepting bitcoins as anonymous contribution. Financial institutions like Visa, PayPal, MasterCard were impressed to government exposure, take out their services to Wiki leaks due to its contradictive political affiliations. For this type actions made Bitcoin a perfect choice to utilize as a contribution system. Nevertheless, its anonymity cause to attract illegal activities such as black markets that trading an illegal goods online. The proceedings of a dark net market place said "Silk Road" was revealed, which generate a nightmare for the FBI by the reason of that it was impossible to track the illegal transactions virtually. Even though "Silk Road" was closed down by the FBI in 2014. Now there are several market place which still make use of the Bitcoin such as a payment system. On Mt.Gox Bitcoin attained to USD on February 9,2011. After with writing the first article about the digital currency by the Time magazine cause to skyrocketing Bitcoin. In April of 2011. After in 2011,

preliminary conferences about Bitcoin happen in New York City and the primary European conference took place in Czech Republic.

In 2012, different Bitcoin startups like Coin-base started to form. The main reason of these startups is helping, trying to make familiarize with using Bitcoin. It was created an online and was familiarize to the Bitcoin wallet that gives permission users to purchase bitcoin with converting USD and then soring the bitcoins virtually. Although, at the end of 2012, Bitcoin-Central, which is the French company, was the first cryptocurrency exchange to be licensed to act as a bank. It also performed inside the framework of the EU, which means users' funds were kept under their name instead of the exchange.

In 2013, FinCEN created for the regulatory body for "centralization of the virtual currencies", which took measure of the Bitcoin "miners" and exchangers in the US as MSB. Each of the MSBs are demanded to be listed and are issued to legal terms such as publishing wide transactions douptful activities. For that reason, Mt.Gox subjected serious legal requirements. In May of 2013, Homeland Security which located in U.S Department reached a verdict that M.T Gox's U.S accounts will had been taken more than 5 million USD as an abandum. For this type of the reason, in June of 2013, Mt.Gox got the MSB license which gives users easily trade with bitcoin but Mt.Gox and other traders face main type of the problems while withdrawal the USD from their accounts. Mt.Gox who handled 70% of the bitcoin all over the world in their hand gives opportunity to fluctuate bitcoin price and other users experienced problems even they forecast future bitcoin price. That's why most people withdraw their money instead of trading in platform. Approximately 1 million customers lost their trust in Mt.Gox caused running digital banking. For that reason, customers could not able withdraw their money result fractional reserve to fulfill needs of customers. At the end of the February, Mt.Gox declared that registered for bankruptcy security. The company declared that a problem allowed hackers steeling more than nearly 480 million USD. All of the problem appeared only that Mt. Gox did not have optional regulation system and second customers did not have full protection. However cryptocurrencies did not have supported by the banks, even by the central bank. This action cause to call off many investors for bitcoin and therefore the price of the bitcoin decreased.

For the good news, ATM for the Bitcoin commenced in Vancouver, the city of the Canada, in 2013. The ATM allowed users in order to withdraw the money with Canadian dollars anytime and to make a deposit their money and easily change to the Bitcoin wallets. Nowadays there are 55 Bitcoin ATM all over the world. Additionally there are several corporations which announced that we commenced to accept as a payment system. Most of them are Reddit, Microsoft, Expedia, Virgin Atlantic, OK Cupid. At the end of 2014, the IRS began to announced that we are treating the bitcoin as an asset rather than a currency, as the same way buying and selling bitcoin are the same way.

4. Bitcoin's Supply

In a centralized economy system, approval currency has supplied unlimited in a theory. To the prudence concept, central bank have to regulate money in order to ensure growth all over the country. The central bank regulate the money within the country with the monetary regulation method which has the reserve part, open market operation, by affecting the discount rate, quantitative ease and etc.

In a decentralized system, no central financial field can affect the money supply within the monetary base. That is why this monetary policy can be ineffective. Cryptocurrencies like bitcoin are the one which central financial fields cannot preserve the digital currencies. The algorithm of the Bitcoin discover that the currency will be created in a somehow rate. A new one is created while miner finds a block. A block is like a cube which an information about the transaction persistently recorded. That is why, a block-chain is a perdurable store of record. When miners find a solution a problem of the cryptographic mathematic, new blocks explored. Each year, constantly 52,500 blocks founded out. Each bitcoin produced per one blocks for each 210,000 blocks which takes four year in order to generate the new one. This descending- supply algorithm is expected to reproduce the same rate at which such commodities such as gold and other valuable metals are mined. It means if we halving each four years, it can be maximum 21,000,000 amount of the bitcoin. Equation 1 gives us final amount

$$\frac{\sum_{i=0}^{32} 210000 \lfloor \frac{50.10^8}{2^i} \rfloor}{10^8} \ . \tag{1}$$

This Table (1) shows how many bitcoins have in the short term. Although it is hard to forecast the number of bitcoins in the period, which are used to handle transactions rather than storing somewhere. In 2012, Ron and Shamir who knows graph theory in computer science analyzed the all existed transactions of the bitcoin and found out that 78% bitcoin which stored in the users' account have never made a transaction. It means only 22% of available bitcoin participate in the active circulation. In 2014, Swanson who conducted the same blockchain analysis and found out that 70% bitcoin did not process within 6 months in 30% of bitcoins which is in active circulation.

Block	Reward Era	BTC/block	Year (estimate)	Start BTC	BTC Added	End BTC	BTC Increase	End BTC % of Limit
0	1	50.00	2009	0	2625000	2625000	infinite	12.500%
52500	1	50.00	2010	2625000	2625000	5250000	100.00%	25.000%
105000	1	50.00	2011*	5250000	2625000	7875000	50.00%	37.500%
157500	1	50.00	2012	7875000	2625000	10500000	33.33%	50.000%
210000	2	25.00	2013	10500000	1312500	11812500	12.50%	56.250%
262500	2	25.00	2014	11812500	1312500	13125000	11.11%	62.500%
315000	2	25.00	2015	13125000	1312500	14437500	10.00%	68.750%
367500	2	25.00	2016	14437500	1312500	15750000	9.09%	75.000%
420000	3	12.50	2016	15750000	656250	16406250	4.17%	78.125%
472500	3	12.50	2018	16406250	656250	17062500	4.00%	81.250%
525000	3	12.50	2019	17062500	656250	17718750	3.85%	84.375%
577500	3	12.50	2020	17718750	656250	18375000	3.70%	87.500%

Table 1: Amount of the bitcoin available in the short term

Currently, it is forecasted that about 99% bitcoins will be participate in active circulation by 2040. Table 1 shows how much bitcoins added to the existence bitcoin yearly. Although it is hard to measure the yearly added a number of the bitcoins. Analysis faces some difficulties because there are some factors that affect directly while estimating future progression. The main problems are mining power and difficulty in the network. But we can also mention that developing technological progression affect the power of the hardware so it also affect the mining power. The maximum supply of the bitcoin which is the 21 million settled by the creator, it a limit but, nowadays, there is only 16.7 million. According to the Jeremy and Peter Smith who was the first investor said that the cryptocurrency is not close to the potential. There is some information for the study said that there is some bitcoins have forgotten user's account which users forgot their password and it is approximately 4 million bitcoin. This 4 million bitcoin is almost 4% of the bitcoin supply.

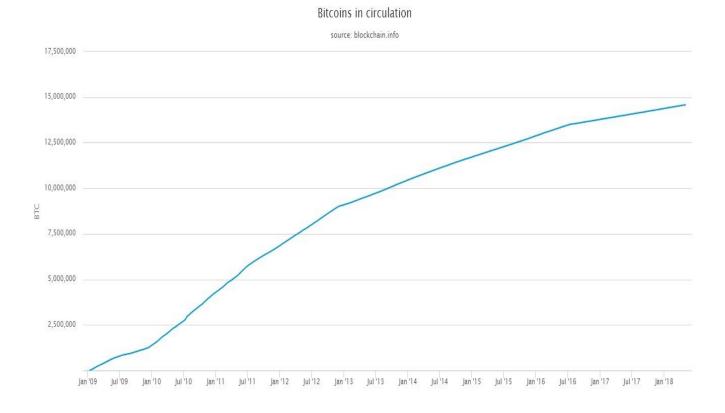


Figure 1: Amount of the bitcoins in existence

While solving the cryptographic problems, miners create problems when emulating fixed number of the bitcoins. For example, if miner could found 200BTC in several days in 2009, it is hard to mine the same amount in 2014 because it will take 98 years to mine the same amount of the bitcoin. Nowadays only super mining pools happen with the supercomputers which linked with cheap electricity is more efficient. So, for that reason over the 70 % percent of the Bitcoin pools are placed in China. While profitable miners entering the market it triggering the countries to find efficient solutions to centralizing of the Bitcoin. It has a positive feedback status, it means when the price of the bitcoin going down, it affect miners a bad mood and makes them less profitable. Minor miners affect to network to change

the difficulty of the cryptographic design and it makes mining productive again. Valfells and Egilsson who are known as an entrepreneur, found out a break-even point which makes miners a sense to enter the trading in the market. In 2016, NYT reported that the half of the bitcoin power used by the three Chinese mining companies which gave them ability to vote any changes in bitcoin software and things directly linked with them. It means they can affect to the microeconomic decisions that looks like central banking decisions, they can change the original code of the bitcoin if they want. These changes can result in a fork, it means network can divide into two different Bitcoin networks. But it has not been occurred yet, it is possible in the future. Finite amount of the bitcoin added at a decreasing value rate. For that reason, users hold the bitcoin instead of spending them. The positive side of the Bitcoin is that it has disinflationary function if all remaining bitcoin mined within four years. As we know deflation impact economic activities slowing down as increase saving and decrease consumption. Bitcoin has an option of the fiat currencies but it cannot take a place of the fiat currencies because it cannot provide a growth of the economy.

5. Schools of Economic Thought

In order to understand and determine as if bitcoin can be an alternative to the other fiat currencies, we have to look at the thought of two economic schools-Keynesian and Austrian. We will determine that how these schools looks Bitcoin via their frameworks in theory.

6. Austrian School of Economics

In 2012, ECB¹ issued a study about the decentralized cryptographic currencies which they say: "theoretically the roots of the Bitcoin has found from the Austrian School of the economics"

One of the basics of the Austrian School is a theory about the Austrian business cycle which arose from economists Ludwig Mises and Friedrich Hayek. The theory implicate that existence of the business cycles in the economic history is not a natural instead of fractional reserve banking and central banking impact them. To this theory, creation of the business cycle is the result of the money supply and interest rates. While central bank keep naturally interest rate down, it affect to the production of the free market as it sends false signals. In according with Ludwig von Mises, these false signals affect badly allocation of the business investment. The only way of decreasing interest rate in business market should happen if we cannot keep constant increasing savings rate. It will result more capital investment in the long term. However, Hayek and Mises think that lower interest rate affect more investment capital in the long term purpose which it will result in an economic boom, crisis will happen then economy will fix themselves.

In 19th and 20th century, the world's most valuable currencies were convertible for the fixed amount of the precious metal like gold. Mises create an argument like "the regression theorem" of the money. They said as follows:

"People only agree with the medium exchange if it has a value in order to it can easily exchangeable for the things. The only way is observe preceding time period. This range of observations should be followed in order to while people accept as a

¹ European Central Bank

medium exchange. Paper money invented by the government in order to force upon people by the financial fields"

Although the gold standard collapsed in the most countries between 1920 and 1970's. The main reason is that the economic growth left behind the producing of the sufficient gold amount. Therefore, the other currencies do not have a physical form. For that reason, central bank can easily change the money supply and that is why overinflate can happen in the economy. The Austrian school declare that medium exchange only can be currency if government monopolize it.

In 1976, Hayek reported an essay which was described his vision about the competition in the currency market. The competition not only inside of the country but also within the country. To his vision, people can choose any currency whatever he want it depend on their wish. For his thought, central bank should keep inflation rate low otherwise people will use other currency.

In a theory, the thought of the Austrian Economic School, Bitcoin is an absorbing currency because it can make a breaking of the monopolization in the fiat currencies and have a possibility to decrease the power of the central bank. If Bitcoin can attract more people than it has and if it will used more than it has, people will change their currencies. The issuance of the additional bitcoins and finite use of the bitcoin can also attract Austrian economists because there is an uncertainty of manipulation in the interest rate in central bank.

Although, bitcoin exchanges will sell more bitcoin than it has, they actually hope there will not be a bank run. FRB² can increase the amount of the Bitcoin money supply in theoretically but not the quantity of the bitcoin in the block-chain.

² Fractional reserve bank

Because the amount of the bitcoin created by the miners. It is necessary to note, although, that for the disinflationary nature, people like to save their bitcoins in their wallets than permitting fractional banking. As if Mt.Gox would try to sell more bitcoins rather than it has, customers will not aware this supply. However a lot of efforts to generate a transparent fractional lending system with the bitcoin failed. For that reason the bitcoin community is suspicious of insignificant reserve banking; additionally without knowing the authority.

Although these factors, greater part of the economists promote The Austrian-school of economics that they are critical about bitcoin and other cryptocurrencies. Some people criticize that Bitcoin break Mise's regression theorem which is said that it cannot backed by commodity. There is some economists like Graf and Surda have different views. They though that although bitcoin is not backed by tangible asset, it satisfies the same requirement as commodity. Because they have same function as fiat currency like they are medium exchange. The most bitcoin admirers are promote of Austrian economic thoughts while the vast of Austrian economists are sensitive about the bitcoin.

7. Keynesian Economics

Central bank use as a tool around the world using Keynesian models to regulate the economy with using the interest rates. To the school view the fluctuations in the business cycle cause mainly in the change by the aggregate demand. While aggregate demand goes down, it decrease the level of the produce in the short run. As we know adjusting the production cost is difficult that you cannot decrease the amount of the wage. Instead it cause to fire the workers and it cause higher level of the unemployment. If a few people works somewhere, it also triggers the people to consume less. Keynesian theory said that if an employment rate are less, try to use

both financial instruments as monetary and fiscal policy in order to make unemployment rate stable. The relation between inflation rate and unemployment rate determine the Philip curve in the short run which implicate that there is a negative relationship between them.

The book³ of John Maynard Keynes found out the liquidity preference. He said that people asses the money for "the trading in the business cycle and the value of the wealth". He saw that individual discontinue to spend the money instead of saving it. For the Keynesian theory there are three model which affect the demand rate of the consumers, they are the precautionary motive, the transaction motive and the speculative motive.

It is acceptable by the economists that vast users treat the cryptocurrency as a speculative asset instead of the payment. Studying by Ron and Shamir shows that between 2009 and 2012, users who bought the bitcoin that they only spent half of them. It means users treat bitcoin as an asset rather than a payment. Other researches that conducted by Baek and Elbeck shows that there is a strong volatility while buying and selling the bitcoin. It means it is more speculative and has a higher risk to trade with the cryptocurrency although there are a high returns. If we suppose that when the interest rate is going to decrease, risk-bearing investors will invest more than it is usual. When the value rate of the Bitcoin goes down, these investors will enter the market which the value of the bitcoin will go up. A large infrastructure required where further businesses will adopt Bitcoin and users will use it as a payment system rather than make investment. As we mention before that Bitcoin has finite supply which it is impossible to affected by the financial instrument and also to the inflation.

³ The General Theory of Employment, Interest and Money

The most of the Keynesian economists ate negativist about Bitcoin and has private opinion. Paul Krugman who is the nobel memorial prize laureate wrote that "Bitcoin is evil". DeLong and Cowen thought that Bitcoin only can be survive if the cost of a Bitcoin alternative is zero. Other Keynesian economists also skeptical about the deflationary nature of the Bitcoin.

8. Bitcoin Ecosystem

Bitcoin has improved its popularity over time and therefore the rise in its investment has created a place of economic activity with parallel. Bitcoin ecosystem consists of six elements:

- 1. Mining companies: Mining companies are undertaking the task of both approving the operations carried out in the Bitcoin network and creating new bitcoins in this way. From this point of view, they are performing a kind of mining duty.
- 2. E-Wallet Service Providers: Wallets are applications that generate and store the digital keys necessary for the users included in the Bitcoin network to operate.
- 3. Financial Providers: These companies are similar to classical financial institutions, with funds held as Bitcoin and interest-bearing companies in forex trading, buying and selling financial assets, buying and selling stocks, and interest in Bitcoin.
- 4. Money Market: These companies are firms that provide the exchange of Bitcoins with other currencies and commission fees for this service.
- 5. Payment processors: Bitcoin or other virtual currencies and companies that provide services to those who want to pay for and buy goods and services.

6. Multinational Firms: These firms are companies that offer different combinations of the above mentioned services together.

9. BASIC ARGUMENTS FOR THE USE OF VIRTUAL CURRENCY

Like other new payment methods, Bitcoin as a virtual currency has legitimate uses that leading venture capital firms are investing in a digital money-making initiatives. Virtual currencies have a ways to increase transaction effectively and decrease transaction costs for the payments and fund transactions. Such as Bitcoin functions as a global currency that can be traded at a decreasing cost than the traditional credit and debit cards. Digital currency can make micropayments easier and gives opportunity businesses to easily trade very low cost priced goods or services that sold on the internet, such as one-time games or music downloads. At present, the ability of such products to be sold at reasonable prices per unit due to higher transaction costs, for example in the traditional credit and debt relationship, is a weak.

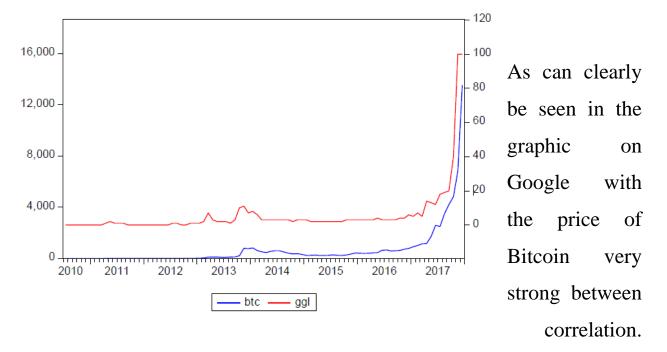
Virtual currencies can facilitate international cash payments and support financial inclusion in other ways. It is possible to develop products and services based on new virtual currencies that could potentially serve the bank. Virtual currencies, especially Bitcoin, can be an alternative for investment. It does not need any central authority for printing, it does not need the existence of a commercial bank to deposit with it, and an electronic money transfer company for transfer.

Supporters of the Block Chain system claim that the Block Chain can revolutionize innovation in the business world and that companies and economies can redefine it. They argue that the block-chain and contracts are embedded in numeric codes and

can be imagined as a world of shared open databases that are stored in a transparent manner, tampered with, tampered with, and protected from deletion. In this world, every agreement, every transaction, each duty and every payment will have a numerical record and signature that can be identified, stored, checked and shared. Agents such as lawyers, bankers and brokers will no longer be needed and individuals, institutions, machines and algorithms will be able to freely deal with and communicate with each other, perhaps with very little friction. It is stated that this is the tremendous potential of the block chain.

10. Relationship between increasing value of the bitcoin and its popularity

Bitcoin specific virtual currencies they are both beneficial and harmful to be discussed all over the world with continues. Revealed most of the arguments are with this kind of development of the internet, the "money" phenomenon is completely virtualized. However, there are also cautious parties. Virtual money is completely the creation of crime on the one hand while advocating that their activities be facilitated, on the other hand weakness in the dominance of the economy it is going to cause problems. But debates yet to reach a technical dimension Bitcoin and other interest in virtual currencies day after day increasing. In the graphic below, the word "bitcoin" passed on Google and the relationship between calls is shown.



Two series of correlation coefficient between 0.93334. As of today, virtual money in the world units on the world's 7841 stock exchange the market value reached is \$ 556 billion. I the current number of virtual currencies is 1380, new virtual money every day Block Chain technology continues to be developed.

Countries which is the friend of the bitcoin.

The Estonian government uses Block-Chain technology for health, banking and even citizens planning to participate in management. It has introduced the first block-chain based electronic voting system for its citizens. It is the United States which is the leader of the world Bitcoin trade volume and is the home of the most crypto money in the count.

Many countries have regulated and regulated the cryptographic but the United States expects the results of its attitudes and approaches to the adoption of democracy.

Denmark is a country that wants to remove its cash use and move to digital currency. He is planning to use Bitcoin and his reputation digital money together in his daily life without giving up his own central bank altogether. The Danish National Bank has announced that Bitcoin will not regulate it as a money. Many Bitcoin innovative companies are established in the country.

Sweden, like Denmark, is a country that wants to lift its use of cash. Swedish. In order not to be affected by Riksbank's negative interest rate policy of the central bank, Swedish citizens can use Bitcoin, which will protect their wealth. The Swedish Financial Supervisory Authority has legalized Bitcoin as a payment method.

In South Korea, which is home to giant technology companies like Samsung and LG. Although there is no law regulating Bitcoin, Bitcoin has been accepted as a method of payment and its spread is increasing day by day. South Korea is also hosting the Bitcoin conferences.

The Netherlands Arnhem is a city of Bitcoin. There are more than 100 places in the city where you can shop with Bitcoin. Dutch banks are exploring ways to use their block-chain method to improve their technology and reduce costs. The Finnish Central Tax Board has defined Bitcoin as a financial service, exempting Bitcoin and its supply from value added tax.

Canada is home to many Bitcoin innovative companies. After long discussions, Bitcoin was regulated under the Anti Money Laundering and Terrorism Financing Law.

The United Kingdom is home to many Bitcoins and Block-Chain innovative companies. Bitcoin is treated as a special monetary value, value added tax on purchases made with Bitcoin applied.

Australia has removed the double taxation applied to Bitcoin, but no specific arrangement has been made for Bitcoin. Australia considers Bitcoin to be commodity.

Countries which do not think positive about the bitcoin

The Icelandic Central Bank has decided to buy Bitcoin in March 2014 under the Icelandic Foreign Exchange Act explains that it is contrary.

Bangladesh says that Bitcoin is not a legal money, and that users are forbidden to throw.

The Central Bank of Bolivia, "a government or a non-governmental entity and using uncontrolled money is not legal".

Ecuador is trying to remove its own electronic money, to prevent competition Forbid Bitcoin.

Since the Central Bank of Thailand is not a law for Bitcoin in July 2013, has been declared illegal.

11. Safety of the Bitcoin

Bitcoin is safe because there are a number of factor that I mention as follows:

- 1. Not central, no central point of failure, if individual users hacked but the whole system is not affected by it.
- 2. Integrity and chronology of blocks and in-block operations cryptographically. It is protected.
- 3. Individually each Bitcoin wallet is protected by a secret key. Secret key which without it, it is not possible to trade through wallets.
- 4. The supply of bitcoin is provided by the consensus of dispersed miners. That, no authority can supply additional Bitcoin. Hacking Bitcoin is the same as internet hacking. Internet at the same time, all over the world-hacking is impossible, countries close the internet or use Bitcoin

Even bans do not prevent this system from functioning. Although quantum computers have not been invented yet, it is true that Bitcoin is a threat, but it's not just Bitcoin it may be a threat to cryptographic applications. If you invent quantum computers the encryption methods can be performed using advanced quantum algorithms, and the reliability of the system will still be preserved.

Malicious users have more than 51% of the current processor power of the Bitcoin network, it becomes possible to hack the system, but to achieve this, making it impossible for individuals and even states. Even if 51% of the project is successful, the transactions cannot be prevented by other users, but transactions cannot be approved, and new block formation can be stopped. Climbers cannot win the new Bitcoin, cannot change the amount of Bitcoin given to the successful mine for each block, they cannot access the Bitcoins they do not have and they cannot operate on it. Ghash.io, from the mining pools, approached 51% of the total CPU power of the Bitcoin network in January and June 2014 without any ill-advised approach, they

reached consensus that approximately 29% voters said there should be a security base actions.

12. Is Bitcoin can be an alternative to the PayPal and Visa

VISA is able to handle an average of 2,000 transactions per second. In an IBM test. It has been shown that VISA works successfully at 56,000 operations at the moment. PayPal with a total of 4.9 billion transactions in 2015, with an average of 155 transactions per second. Bitcoin is limited to a maximum of 7 transactions per second. 2016 average 3 transactions are entered into the Bitcoin system at the moment. But in all Bitcoin If they agree with the users, it is possible Bitcoin can do 2,000 transactions per second that in full-end computers connected to the Bitcoin network, they lose time. "Quad core Intel Core i7-2670QM 2.2Ghz" with a processor the computer can verify 8,000 signatures at a time. Also, When the operation is 512 bytes, 2000tps * 512 * 8 = 7.8 MBit / s network width that you will need. This speed is almost a speed that can be owned even at home, it will work successfully.

When bitcoin fills, the number of transactions will increase. Along with the increased number of transactions, the Block- chain will take up a lot of space and in this case the number of individual, voluntary, it will be reduced. While the system is giving the Bitcoin incentive to the miners, there is no incentive. The number of full ends that hold the global account book is very possible as globally distributed, it increases both reliability and against any kind of interruption of the system to be resistant. Bitcoin users share a common incentive to promote full tips. If this happens, this problem will be overcome.

13. Is Bitcoin has a deflation problem

Bitcoin system, the money supply continues to decrease and demand cannot satisfied and the risk of excessive increase of value for demand is called risk of deflation. Traditional financial systems, wage deflation, the purchasing power of money increases over time. Most economist thinks deflation is an economic catastrophe and should be avoided. In deflation, people prefer to save money instead of spending money, they wait. The disappearance of Japan's claim to "lost 10 years", deflation of the Japanese Yen.

Bitcoin experts claim that deflation is not as bad as it looks. The only one in our hand is the deflation resulting from the narrowing of the demand, Bitcoin will not suffer a shrinking demand, but the money supply is known to decrease, it may be a deflation, which is very different from deflation in Japan.

In practice, the consumer's accumulating internal motive is also present in the producer, the consumer, who has to meet his needs, is supposed to infect at an equilibrium price. Nevertheless, the risk of deflation in Bitcoin may be a problem, it will be shown in time.

14. The problems of the Bitcoin

Human nature is concerned about new and change-related issues. We resist to change our habits immediately and completely. In this sense, there is resistance in humans against Bitcoin and it is hard to admit that it is. No evidence of ownership in case of loss of secret keys, it is a big problem that people have difficulty getting

to admit it. In addition, illegal authorities become attractive in activities, the public authorities are concerned. For example; past involvement of illegal activities on the site named Silk Road (child pornography and drugs), initially gave psychological damage to the Bitcoin system. The anonymity provided by Bitcoin is due to security issues it has. The confidentiality of identity information is not subject to the supervision and regulation of an authority, making it vulnerable to various kinds of illegal financial transfer transactions. Governments, against Bitcoin for the time being, they have a negative and prohibitive approach, but there is no guarantee. The widespread use of Bitcoin will help reduce price volatility, the price fluctuation should also decrease. This is an egg-chicken problem. However, it is promising that it will become widespread since the day it was announced. Failure of central control point, objection in transfers and back cannot be obtained. This may lead to diversity problems. Each system has cost. But the greatest cost of the bitcoin system is in mining spending costs. Although there is excessive electricity consumption and initial installation costs, this cost is transparent computable. In the present case, the total cost of Bitcoin is the sum of many central banks cost.

15. Impacts of the bitcoin to change the global economy

Indeed, this is the leading and most effective crypto currency in the world. But, the achievement of this recognition was not easy. Bitcoin's connection with the criminal world - money laundering and drugs - through notorious black markets such as Silk Road and Alphabay, as well as high volatility of the prices of this crypto currency, leads to constant financial market participants being cautious because of the potential risks of bitcoin.

-The political influence of Bitcoin

Bitcoins bring with them a lot of political contradictions. This is because no government can fully control them. They are an explicit form of wealth for individuals, and no state can expropriate them because of the cryptography that underlies this crypto currency.

People are gradually beginning to understand that crypto-currencies are the best forms of money, because they are managed only by code, making them a digital sacred contract.

The impact of crypto currency on society is not yet fully realized and will not be felt immediately. Despite the creation of the crypto currency, it hardly came to the surface of society. Most people have not heard about Bitcoin and how virtual currencies work.

But a large number of sellers are already beginning to collect bitcoins as payments. And it's only a matter of time, when many others of them do not follow suit.

-The influence of bitcoins on the global future

Today, as a rule, almost every digital international transaction involves the use of one or another form of virtual currency or credit.

Thus, bitcoin is designed to provide security guarantees and credit convenience, while reducing transaction processing times and commission payments.

The region with the greatest potential for bitcoins in the world is probably international money transfers, that is, money sent home by workers who earn abroad. Now, these payments are processed by several intermediaries, including banks with their services, and currency exchanges. A recent study conducted by Businessweek showed that the average commission paid for money transfer

services is 9% of the transfer amount, while the conversion into cash often makes up an additional 5%. The profit margin of Western Union in this mediation is huge - almost 16%, and most of its costs are related to technologies involved in moving money from one place to another, guaranteeing the legitimacy of the transaction. In short, Western Union spends billions of dollars only on what Bitcoin can do or do almost for free.

16. The value of the Bitcoin

American economist Paul Krugman recently asked a question that interests many skeptics: where does the value of bitcoin come from as a financial unit? Yes, possession of bitcoins is fine, but why their value can be equal to the dollar, a thousand dollars or even a million?

Krugman wrote in his study "Bitcoin is evil":

"... when I ask you to explain to me why the bitcoins are of reliable value, they always tell me what a cool means of exchange. Even if I buy bitcoins (which I will not do), this will not solve my problem. And the people interviewed by me did not understand that these are completely different issues."

The representative of the Coin-base site, Fred Ersam, wrote a complex article in response, which showed the arguments used to prove that bitcoins are a valuable asset. Most often called the fact that bitcoins have tremendous capabilities for transactions. The article was called "Bitcoin is good."

"Currently, the value of bitcoins as a currency can be calculated by adding up the savings by using the Bitcoin payment system, and not other payment methods. If one bitcoin is used for 10 transactions per year with an average value of \$ 100, the bitcoin network is 3 percent cheaper than any other alternative. This dynamic

persists for 10 years, increasing the value of this bitcoin to 300 dollars. Bitcoins do not even need to replace local currencies."

In my opinion, this is not an entirely satisfactory answer. To trade with something valuable, it is necessary that this already had its value. Therefore, to say that bitcoins are valuable because of their effectiveness in trade is a vicious circle.

Consider this example: if Fred uses the Bitcoin system just to transfer his dollars, the total value of bitcoins is not important to him. It can be as much as 1 dollar per coin, and 10 thousand. He will send \$ 100 and receive the same amount (the volatility of the exchange rate is not so important with such a turnover).

Identically, other parameters (time stamp security, name systems, smart contracts) do not affect the value of one bitcoin in any way.

So from what bitcoins get their value?

In the first year of the system almost no transactions were made, and people spent their efforts on accumulating bitcoins. Only two possible reasons come to mind:

- 1. Value as a collector's item (on the same principle as the activities of people who collect rare metals, stones, shells, stamps, paintings and baseball cards).
- 2. The value that is based on the fact that other people will find your item of collectibles valuable and will want to buy it, thereby enriching the previous owner.

Gold is valuable for these very reasons. Not because it shines (many things also shine), but because it is rare, durable, mobile and affordable for collecting.

And falling into the hands of the owner, it can only increase its value in direct proportion to the number of people who want to get it.

When a collectible becomes valuable, it can become money. When bitcoins became valuable, one could take advantage of their excellent system for making financial transactions. However, the system remains the same, no matter how many people participate in it. Therefore, the system itself can not be responsible for the value that people invest in bitcoins.

Supporters

Most Bitcoin supporters love this technology and get frustrated when they learn that the price of bitcoins depends on the number of these most supporters. All of them try to rely on the technical features of the system, but there is no way to measure how deep their faith is.

Everyone personally decides how much money and time to sacrifice on their beliefs. Fred Wilson, for example, loves the Bitcoin system very much, but (as he himself said earlier), almost does not own bitcoins. On the other hand, some people invest money without any understanding of what bitcoins are. They are attracted only by the fact that it sounds cool.

There is no rational way to help determine the real value of bitcoins. In addition, the measurement of value based on the indicators of the circulation of bitcoins is in itself wrong, because there is no circulation, and all transactions occur because money already has some value for people. And the frequency of circulation does not depend on the total stock of the currency. Bitcoins are often traded only by the

fact that there is such an opportunity. Gold is not sold so often, but it is estimated much more.

For more detailed information about collectibles and the early history of money, read the excellent article by Nika Shabo.

To summarize, it must be said that bitcoins are valuable as collectibles. Their reliability as "custodians of value" depends on the number of people that they use. The more people believe in the seriousness of Bitcoin, the more confidence will increase

17. Overview of Bitcoin as a Currency

At different times, feathers were money, shells were money. Dollars and the euro is money. Gold and silver are money. Bitcoin and other crypto-currencies can also be money. People say that some forms of money, such as bitcoin or US dollars, are not backed up. But this is not true. They are supported by one thing: trust. If you and I are sure that something is money, and we agree that this is money, then this is money. But if I call something money, and no one else in the world says so, it's not money. The same applies to gold, dollars and crypto-currencies.

Governments have an advantage, because they force you to pay taxes in your money. In other words, governments essentially create artificial use for their own forms of paper money, threatening people with punishment if they do not pay taxes denominated in their own fiat currency of this government. And the dollar has a monopoly as a legitimate payment tool for paying US taxes.

According to John Maynard Keynes and many other economists, it is the ability of the state to force to make tax payments in a certain currency that gives

the currency its intrinsic value. This theory of money boils down to the fact that we value dollars only because we have to use them to pay taxes - otherwise we will go to jail.

The so-called crypto-currencies, such as Bitcoin, have two common features. First, they are not issued or regulated by any Central Bank or a single regulatory body. They are created in accordance with certain computer algorithms and are issued and transmitted through a distributed computer network using open source code.

Any particular computer server on which the ledger or the register of crypto currencies is located can be destroyed, but the existence of the currency will continue to be on other servers around the world and can be quickly replicated. It is impossible to destroy a crypto currency, attacking any one node or group of nodes.

The second common feature of crypto currency is encryption, which is part of the "crypto" in the name. It is possible to observe the transactions taking place in the so-called block, which is the main register of all currency units and transactions. But the identity of participants in transactions is hidden behind what is considered an indestructible code. Only the parties performing the operations have the keys necessary to decode the information in the chain of blocks in such a way as to gain access to the possession and use of the currency.

This does not mean that crypto currency is fault-tolerant. Large amounts of crypto-currency units were lost by those who introduced them to some unregulated bitcoins-banks and exchanges. Others were lost because of elementary fraud. Some of the tools were lost, because personal hardware keys containing encryption keys for "digital wallets" were lost. But in general, the system works well enough and grows rapidly both on legitimate and illegal transactions.

It is worth noting that the US dollar is also a digital crypto currency for all purposes and tasks. Just dollars are issued by the central bank, the Federal Reserve, and bitcoin is issued privately. While we can keep several paper dollars from time to time in our purse, the vast majority of transactions expressed in dollars, whether in currency or in the form of securities, are digitized.

We pay bills online, pay for purchases with a credit card and receive direct deposits to our bank accounts in digital form. All these transactions are encrypted using the same encoding methods as Bitcoin.

The difference is that the ownership of our digital dollars is known to some trusted counterparties, such as our banks, brokers and credit card companies, while the ownership of bitcoins is known only to the user and is hidden behind the code in the blockade.

Bitcoin and other crypto-currencies present certain problems for the existing system. One of the problems is that the cost of bitcoin is not constant in US dollars. In fact, this cost is quite volatile, ranging from \$ 100 to \$ 1,100 over the past few years. Currently it is about \$ 575 (at the time of writing the article in August 2016 - S.B. comment).

Truth and dollars fluctuate in value relative to other currencies, such as the euro. But these changes, as a rule, are measured in shares of pence, and not by jumps in the \$ 100 per day.

This gives rise to tax problems. For example, if you buy bitcoin for \$ 200, and later buy it for \$ 1000, you have \$ 800 profit to buy and sell the bitcoin itself. From the point of view of the IRS (the US Internal Revenue Service), this profit does not

differ from the fact that you bought a share of the stock for \$ 200, and then sold it for \$ 1000.

18. Bitcoin's volatility

The volatility of the crypto currency is the degree of fluctuation in its rate. The graphs of the course show constant jumps and falls. The difference between the upper and lower limits of the price is the indicator of the volatility of the crypto currency.

For example, in bitcoin, the lower limit of the price for the last month was \sim \$ 11 thousand, and the upper limit - \sim \$ 20 thousand. Its volatility in December 2017 is slightly less than 50%.

Typically, the volatility of the crypto currency is calculated within a specific period, as in the example above. The period can be any - week, month, year. But for a period of less than a month, few expect it, because during, say, a week the rate can only grow or fall.

The task of monthly volatility is already possible to draw conclusions, but more often for forecasting or trading volatility strategies for a few months or a year.

Volatility for a certain period of time or for the entire existence of the crypto currency is called historical volatility.

There is still the expected volatility, which is the main object of interest of players in the market. The expected volatility is the predicted volatility, i.e., assumptions about the degree of fluctuation in the course of the crypto currency in the future. It is calculated based on the historical volatility and current situation of the crypto currency in the market (value, liquidity, etc.).

-How high is the volatility of the Crypto-currency?

The rate of any assets, including crypto-currency, is rarely fixed.

It is influenced by investors, traders, the economic and political situation, the information field, the emergence of new crypto-currencies and forks and other incidents that are inherent in both the cryptosphere and the economy as a whole.

The above may affect the Crypto-currency both positively and negatively.

Often, positive and negative factors overlap each other with a small time difference, resulting in fluctuations in the rate. They are heated by trading games, when players purposefully try to lower or raise it.

A course of crypto-currency with a small capitalization may fall or rise by 50-100% from one news or the arrival of a couple of large traders. But the volatility of multibillion currencies is also high, because they exceed the number of trades, and volumes, in turn, involve a large number of traders, each of which seeks to swing the course as much as possible.

The course of little-known crypto currency can fluctuate at all without direct reasons. Sometimes, for its fall or growth, it is sufficient to drop or increase the rate of bitcoin or another large currency.

Compared to traditional assets, the volatility of the Crypto currency is indeed high.

The average annual volatility of fiat money, as a rule, is not higher than 3-4%. For the currency, the exchange rate fluctuations are normal within 20%, sometimes they reach 50%, and the average annual volatility of many crypto currencies is above 100%.

-Causes of volatility

The main reason for such an impressive instability is that people do not know what to expect from a crypto currency. The increase in demand is affected by the smallest trifle, which increases the attractiveness of crypto currency in the eyes of the consumer.

It can be provoked by a disproportionate expansion - and the crypto currency will begin to fall, in fact, without any reason at first sight. Then, of course, it will grow again, if in itself is in demand. However, the fact of the fall will be fixed, and it, together with the subsequent growth, will determine that high volatility, which analysts say.

Among the other reasons for the volatility of the crypto currency are the following:

-Lack of state regulation

The dollar is the crows of economy and economy. The little-known national currency receives support from the issuing state, as it is interested in the economic well-being of the population - the main holders of the currency.

Crypto-currencies are decentralized, that is, they do not have any regulatory financial bodies. The currencies that can be issued by advanced states, that is why the prophecy: due to the support of the issuing state, their volatility will be low, then people will be sure that they are crypto currency in comparison with those that do not have such support, that is, with the rest.

-Lack of attachment to tangible value

The course, for example, of the Russian ruble depends on other things on Russian oil. People know that the ruble will hold more or less steadily until oil is valued in the world and extracted in Russia. Other national values can be indirectly tied to

the value that the nation has. While the value of this value is stable - the currency will also not be noticeably "jumping", that is, its volatility will be.

19. Government Regulations

Bitcoin was created after the global financial crisis of 2008 to work outside central governments, banks and financial institutions. Other digital and virtual currencies, also called crypto-currencies, appeared shortly thereafter. Since bitcoin is so new, government regulations are still minimal. However, users can expect more control from the government in the coming years.

In 2009, the programmer, under the pseudonym of Satoshi Nakamoto, introduced Bitcoin, in part in response to the financial crisis. Nakamoto wanted governments and banks not to be easily manipulated. Bitcoin is defined by code and does not have a physical form or its own value. It is completely decentralized and can be exchanged anonymously without any financial charges. These same features made Bitkoyn attractive for criminal activity and a challenge to regulators, law enforcement agencies and tax authorities.

Preference Cybercrime

Because Bitcoin can be used anonymously, it is attractive for illegal financial transactions, such as money laundering and the purchase of drugs on the Internet. In 2013, the FBI closed the Silk Road, the Internet black market, best known for illegal drug trafficking, which used Bitcoin as a currency. In this process, the government seized a bitlock in the amount of millions of dollars. Later Marshal US exhibited some of these confiscated bitcoins for auction. In an article from Forbes magazine from 2014, the Executive Director of the Botkoyon Foundation John

Matonis said that the auction proves that bitkoyn is interchangeable and has "market legitimacy". «

As currency without physical presence, which is stored on the Internet, bitcoin is also attractive to hackers and thieves. Several companies for the storage and exchange of bitcoins suffered major theft. In early 2014, the Japanese mountain. Mt.Gox, then the largest digital currency exchange in the world, was forced to declare bankruptcy when it discovered that the hackers had stolen \$ 477 million Bitkoynov. In March 2014, the Canadian bitcoin storage company, Flexcoin, lost about 600,000 dollars of bitcoins.

Current Bitcoin Legal System

Since it is still so new, there are no international laws regulating bitcoyne. Each country considers Bitcoin in different ways, and the rules are constantly evolving. This article focuses on the position of the US financial authorities, as other governments can turn to the United States for precedent.

The US Treasury Department's financial precedent control service (FinCEN) published the first manual on digital currency in March 2013 (document), and then another in January 2014 (document). In these manuals, participants in the bitcoins were discussed, classifying them as users, exchangers and administrators. FinCEN also identified exchangers and payment processors as money-translators whose activities are subject to the laws governing the activity in the sphere of monetary services (MSB) under the Banking Act secret (document). When a business or an individual falls under the definition of FinCEN's financial business, an enterprise must comply with registration requirements and comply with a number of

obligations to combat money laundering, documentation and reporting. BitPay is one of the companies associated with Bitcoin, already registered in FinCEN.

The number of enterprises and traders (for example, Overstock (OSTK OSTKOverstock.Com Inc 40. 55-8. 98% Created with Highstock 4. 2. 6), Dish (DISH)> DISHDISH Network Corp50 82 + 5. 72% Created with Highstock 4 2. 6), and Dell) acceptance bitcoin increases. Many traders showed interest in derivatives (and derivatives markets), due to which their exposure to fluctuations in Bitcoin's price could be hedged. Derivatives are a popular way to hedge risks through products such as futures, forwards, options and swap. Many registered trading platforms are ready to list the derivative products of Bitcoin. The Tera Exchange, registered by the SEF (Swap Exchange Facility) with the Commodity Futures Commissions (CFTC) of the United States, already has a CFTC-regulated product called USD / XBT Swap. The product protects the cost of bitcoins by blocking the dollar rate. The Commission for Commodity Futures on Commodity Exchanges of the US held its meetings of the Advisory Committee on Securities Markets in October, where various aspects of bitcoins were discussed (although subsequently it did not make an official announcement). In December 2014, CFTC chairman Timothy Massad said that some aspects of virtual currencies would fall under the jurisdiction of the agency.

New York became the leader among the states of the United States, who proposed the rules of bitcoins. In July 2014, the Financial Services Department of New York published a legal framework proposal (document) called Bit-License for companies dealing with virtual banking

20. Bitcoin's Weaknesses

The discussion caused by the appearance of Bitcoin Classic was centered around the proposed increase in block sizes, but this new implementation of the bitcoin protocol is much more than a change in the rules of consensus.

In fact, the change in network management is one of the main points of the client software. As stated by the main developer Bitcoin Classic, Gavin Andresen:

"This discrepancy is manifested in disagreements about governance." How do we make decisions? Disagreement about how relevant this problem is now. "

Coinbase, CEO Brian Armstrong, recently mentioned the possibility of realizing hard work as one of the moments of choice, but such a situation would cast doubt on Bitcoin himself as an algorithmically managed payment system. If most Bitcoin miners can vote on making changes to the protocol, the reality is that the system can be under much more control than just mathematics.

Bitcoin as algorithmic money

One of the key advantages of bitcoin, advertised by many crypto currency supporters up to this point, was that it is a digital cash system based on mathematics and cryptography. As many have said in the past, the bitcoin constitution is its code. One of the main points that is intended to support the role of bitcoin as algorithmic money is the consensus of 95% of the miners for making any decisions.

The activation condition of 95% made it impossible to make changes in the rules of consensus. This allows the bitcoin to maintain its original goal, offering steady

payments and algorithmically controlled monetary policy, while at the same time freeing up space for protocol improvements.

Of course, bitcoin does not always work on the notion of a universal consensus on the changes in the protocol. Satoshi Nakamoto was essentially a magnanimous dictator at first, and then Gavin Andresen assumed this role after the mysterious bitcoin creator disappeared in 2010. In the case of BIP16, only 55% of the power is required to activate the fork. One of the main participants in the discussion and Blockstream co-founder Mark Friedenbach argues that this function is "inadequate", and now we are stuck with this decision, because Andresen did not want to wait for a consensus. The core of bitcoin departed from the model of "benevolent dictator" after Vladimir van der Laan began to work with the project in April 2014.

Political Threat for Bitcoin

Part of the bitcoin community is currently trying to change the management model with the help of hardcore. The introduction of hard-core will lead to an increase in the maximum block size to 2MB, it will be activated at the threshold of voting of 75%. However, the proposal to amend the rules of the bitcoin consensus with 75% of the hashing power of the network, although it signals support for the changes, is considered negatively by the Bitcoin Core development team for technical and philosophical reasons.

And Gavin Andresen, and Jeff Garzick? who is also currently working for Bitcoin Classic, wrote about why the activation threshold of 95% may be unreasonable. Andresen states that the threshold of 75% is designed to prevent a veto from being imposed on changes in the rules of the bitcoin consensus, whereas, according to

Garzik, "95% means that you need to rent slightly more than 5% of the network capacity to block consensus."

Garzik also made changes to the Bitcoin Classic on Github, allowing you to increase the fork activation threshold to 80%.

Some consider Bitcoin Classic as a political attack on the bitcoin network due to the use of the activation threshold of 75% for hardcore. One of those who sees Bitcoin Classic as an attack on bitcoin is the former managing director of WizSec, J. Maurice, who was investigating the missing funds for MtGox. He made the following statement for Nasdaq:

"Bitcoin was created in order to eliminate the need for third parties or intermediaries. We should not turn bitcoin into an instrument of democracy or another political structure in which supporters of hardcore can use various methods to become our elected leaders.

The existing process of considering the community of developers of the original protocol does an excellent job for scaling the project, and will continue to do this with SegWit, side-users and other achievements of the technology of blocking. Bitcoin cannot afford political games for the sake of seizing power to bypass the process of reviewing a trusted developer community. "

Other critics of the proposal to lower the threshold for amending the rules of the consensus bitcoin noted that unsecured currencies, such as the US dollar, have already implemented the concept of controlled monetary and regulatory policies. In their view, one of the main concepts of bitcoin was that it would not succumb to the same political influence that is observed in systems like the dollar or the euro.

Of course, there is also a political problems of bitcoin are caused by technical limitations. In the end, there would not be a block size limit - the system could easily scale, while maintaining a high degree of decentralization. At this point, it seems that Bitcoin Classic will not be able to initialize its fork. The letter, signed by the majority of the mining companies representing the main network natures, and other representatives of the community, reports that they intend to adhere to Bitcoin Core. Strangely enough, the technical director of Coinbase, Charlie Lee, was one of the signers of the letter, while the company's CEO Brian Armstrong - one of the most ardent supporters of Bitcoin Classic. Samson Mou of BTCC said that Bitcoin Classic is exaggerating its support, and companies not listed at the recent "Round Table" do not necessarily take this position.

21. Stock exchanges of Bitcoin

Binance

Advantages:

Commission rates are very low (at levels of 0.1%) If you make a payment using BNB coin, the margin is 50% lower. The most reliable and large stock market. The daily trading volume has seen \$ 1 billion. The phone application is absolutely very successful and guarantees a fast transaction every second.

Disadvantages:

You must have a transaction volume greater than 2 BTC to deposit with USD

cex.io

Advantages:

Money deposit / withdrawal from credit / debit cards.User-friendly interface. Bitcoin prices can be bought at a cheaper rate than Turkish stocks because of the

quick reaction. Quick account verification

Disadvantages:

Switching card features on and off at certain times. If bitcoin prices increase, the

price is higher than Turkish stocks. 8 coins in total and coins generally expensive

from stock exchanges like Binance

The Kucoin

Advantages:

Low commissions (around 0.1%), Daily gas payment to NEO, Kucoin Shares pay

their daily profits to those who own their coins (the stock market is distributing 90

percent of their own money back to their users). High throughput capacity

Disadvantages: Unable to process with real money like Dollar, Euro

The Hitbtc

Advantages:

Too many coin types. The transaction volume is great and the Danish-based makes

the user trust

Disadvantages:

The duration of Deposit / Withdraw transactions varies greatly. So far I've been

trading in 1 minute, and it's in 1.5 hours.

Bitfinex

It is the world's highest volume stock exchange, but you have to pay \$ 10,000 to open an account. It is more expensive than Binance.

22. Research Metodology

This paper is a descriptive based on the collection of the creation of the Bitcoin, good and bad sides of the bitcoin, which things affect to the bitcoin, how bitcoin affect to the global economy, what is the thoughts of the economic schools about the bitcoin, why major countries are not peacuful about bitcoin, how bitcoin impact to the global economy as well as to the USA, why Bitcoin volatity and speculation so high

23. Conclusion

Currently, Bitcoin does not act as a medium exchange because it is finite supply. Finite supply makes bitcoin to be more speculative. In this paper: Bitcoin looked from different perspectives: the user market and impact to the global economy, additionally impacts to USA economy. Studies shows that people approach to Bitcoin as a precise metals as a gold rather than medium exchange. Investors wants to gain a quick, easy money but they put their money into high risk. Researches shows that Bitcoin does not impact to the USA economy more. Compared USA economy and trade, the market cap of Bitcoin is minuscule. If we suppose that all cryptocurrencies is only \$500 billion, the entire market capitalization of the Bitcoin is \$200 billion, perhaps \$70 billion remained to the USA in bitcoin. Against total assets of commercial banks in USA is \$16.6 trillion. The total market cap of Stock

market is \$30 trillion, total market cap of the bond market is \$37 trillion, the monster in The USA which is the derivatives market \$200 trillion. It means Bitcoin do not have a real impact on the USA economy. However bitcoin has a great impact to the commodities market today.it means people determine buying a gold or bitcoin. Researches shows that people under 20's-30's trying to buy bitcoin rather than buying the gold but people that are older age buying gold. The biggest interest for using it is in the outside of the USA, countries in which suffered hyperinflation and oppressive regimes.

24. References

- [1] S. Nakamoto, Bitcoin: A peer-to-peer electronic cash system (2008).
- [2] M. Bustillos, The bitcoin boom, 2014.
- [3] D. Chaum, Blind signatures for untraceable payments, in: Advances in cryptology, Springer, pp. 199{203.
- [4] S. Barber, X. Boyen, E. Shi, E. Uzun, Bitter to betterhow to make bitcoin a better currency, in: International Conference on Financial

- Cryptography and Data Security, Springer, pp. 399{414.
- [5] D. Yermack, Is Bitcoin a real currency? An economic appraisal, Technical Report, National Bureau of Economic Research, 2013.
- [6] D. Golumbia, Trump, clinton, and the electoral politics of bitcoin, 2016.
- [7] R. Grinberg, Bitcoin: An innovative alternative digital currency (2011).
- [8] J. Redman, Openbazaar is here but darknet markets will remain, 2016.
- [9] M. Miller, The ultimate guide to Bitcoin, Pearson Education, 2014.
- [10] J. Brito, Online cash bitcoin could challenge governments, banks, 2011.
- [11] R. Stross, What's coming out of silicon valley, 2012.
- [12] A. Santos, Bitcoin-central becomes _rst bitcoin exchange licensed to operate like a bank, 2012.
- [13] P. Vigna, 5 things about mt. goxs crisis, 2014.
- [14] D. Howden, Bitcoin bank run, 2014.
- [15] O. Williams-Grut, Mt.gox _les for bankruptcy protection, 2014.
- [16] R. Sidel, E. Warnock, T. Mochizuki, Almost half a billion worth of bitcoins vanish, 2014.
- [17] P. Liljas, Worlds _rst bitcoin atm launched in canada, 2013.
- [18] S. Acharya, J. Dunn, Overstock.com ventures into digital currencies,

- [19] D. Ron, A. Shamir, Quantitative analysis of the full bitcoin transaction graph, in: International Conference on Financial Cryptography and Data Security, Springer, pp. 6{24.
- [20] T. Swanson, Approximately 70% of all bitcoins have not moved in 6 or more months, 2014.
- [21] O. Beigel, Is bitcoin mining pro_table in 2017?, 2016.
- [22] N. Popper, How china took center stage in bitcoin's civil war, 2016.
- [23] S. Valfells, J. H. Egilsson, Minting money with megawatts [point of view], Proceedings of the IEEE 104 (2016) 1674{1678.
- [24] Virtual currency schemes, European Central Bank (2016).
- [25] L. V. Mises, B. B. Greaves, Human action: A treatise on economics, Yale University Press New Haven, 1949.
- [26] R. W. Garrison, Overconsumption and forced saving in mises-hayek theory of the business cycle, History of Political Economy 36 (2004) 323{349.
- [27] L. v. Mises, The theory of money and credit, Indianapolis, IN: Liberty

Fund, Inc., 1912.

- [28] A. G. Clegg, Could bitcoin be a _nancial solution for developing economies, University of Birmingham (2014).
- [29] F. Hayek, Choice in currency: a way to stop ination, volume 48, Ludwig von Mises Institute, 1976.
- [30] N. Gertchev, The money-ness of bitcoins, 2013.
- [31] P. Korda, Bitcoin: Money of the future or old-fashioned bubble?, 2013.
- [32] F. Shostak, The bitcoin money myth, 2013.
- [33] K. Graf, On the origins of bitcoin: Stages of monetary evolution, KonradS. Graf Investigations and Observations (2013).
- [34] P. Surda, The origin, classi_cation and utility of bitcoin (2014).
- [35] J. M. Keynes, General theory of employment, interest and money, Atlantic Publishers & Dist, 2016.
- [36] F. Glaser, K. Zimmermann, M. Haferkorn, M. C. Weber, M. Siering, Bitcoin-asset or currency? revealing users' hidden intentions (2014).
- [37] C. Baek, M. Elbeck, Bitcoins as an investment or speculative vehicle? a _rst look, Applied Economics Letters 22 (2015) 30{34.
- [38] P. Krugman, Bitcoin is evil, The New York Times 28 (2013).

- [39] B. DeLong, Watching bitcoin, dogecoin, etc, 2013.
- [40] T. Cowen, How and why bitcoin will plummet in price, 2013.
- [41] G. Varriale, Bitcoin: how to regulate a virtual currency, International Financial Law Review 32 (2013) 43.
- [42] R. Bohme, N. Christin, B. Edelman, T. Moore, Bitcoin: Economics, technology, and governance, The Journal of Economic Perspectives 29 (2015) 213{238.
- [43] S. Lo, C. Wang, et al., Bitcoin as money?, 2015.
- [44] C. Burniske, Bitcoin: A disruptive currency (2015).
- [45] J. Davidson, Bitcoin not really being accepted by major companies, 2015.
- [46] C. Burniske, All about bitcoin, Global Macro Research (2015).
- [47] D. Vorick, Ensuring bitcoin fungibility in 2017 (and beyond), 2016.
- [48] E.-T. Cheah, J. Fry, Speculative bubbles in bitcoin markets? an empirical investigation into the fundamental value of bitcoin, Economics Letters 130 (2015) 32{36.
- [49] G. Mullany, China restricts banks use of bitcoin, 2013.
- [50] G. Smith, Bitcoin is melting down as china cracks down on capital out-