THE BITCOIN PROJECT AND THE FREE MARKET

Mihaela Iavorschi[*]

Abstract: *The human innovation in the field of monetary freedom takes shape in the virtual communities. Developed and implemented through a decentralized algorithm, the bitcoin project has so far proved itself a success in the field of virtual currency. Beyond the technical part of operation, in this paper we will analyse the theoretical principles underlying the bitcoin. This study shows that the bitcoin largely meets the role of natural money of gold and silver, in compliance to the free market's behaviour. This allows us to observe the fact that people are aware of the negative implications the state's intervention has in the monetary filed, thus deciding to create and use their own currency in online transactions.*

INTRODUCTION

Considered to be one of the first deployments of the "crypto-currency" concept, the bitcoin project originates in the studies conducted in 2008 by Satoshi Nakamoto, a group consisting of a Japanese researcher and four PhD students at the Massachusetts Institute of Technology (Satoshi N., 2008).

The technical deployment of the project took place in 2009 and since then it met an upward trend in the virtual communities. The originality of this digital type of money consists in the fact that it was designed and implemented independently from a central institute.

Unlike paper money, the bitcoin is not issued and therefore it has not been regulated until now by government institutions. The bitcoin currency can be generated by any computer and the transactions are made directly between people who are interested, without the bank being the middle-man.

The system behind the currency is decentralized, using a distributed peer-to-peer database and an open source protocol. This generates a transparent system. Using cryptography, the bitcoin system offers a strict control of transactions thus ensuring the bitcoins are spent only once by the owner. The peer to peer operating mode from node to node and the lack of a central administration do not allow any bank to

[*]Mihaela Iavorschi is a PhD Student in Economics at the Faculty of Economics and Business Administration within Alexandru Ioan Cuza University of Iasi, Romania, e-mail mihaela.iavorschi@gmail.com.
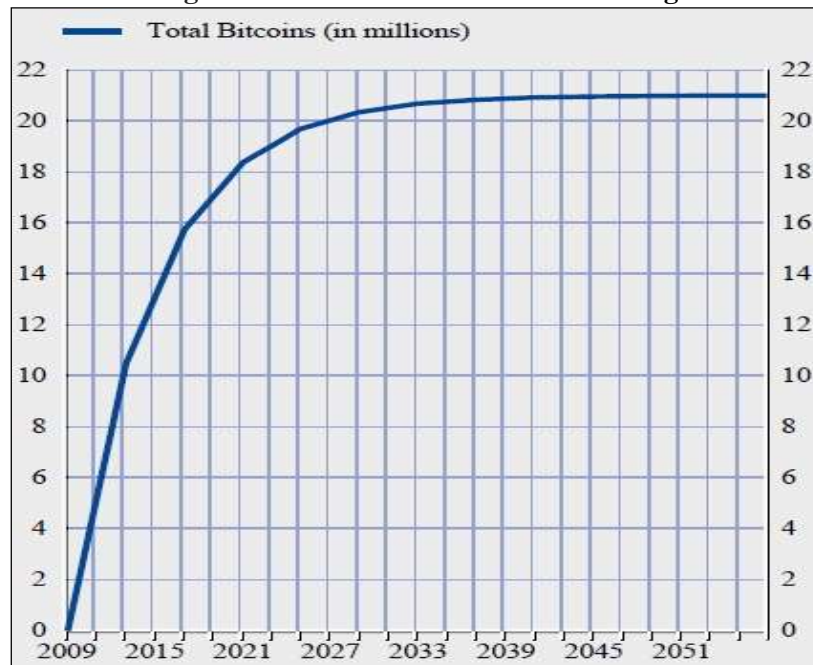
influence the bitcoin value or to induce inflation by issuing uncovered bitcois. These are the main reasons why the bitcoin is considered a decentralized digital currency.

Managing bitcoins is made by saving them in a specific folder called a wallet. Wallets can be stored on web services, personal computers, mobile devices or paper. Bitcoins can be sent using internet to any person owning a bitcoin address. Once validated each transaction is permanently stored in a public registry called a blockchain. Processing the payment is made more than once through a private computer network specially designed for this task. The operators of these computers known as „miners" obtain trading commissions and newly mined bitcoins. The bitcoin can be generated on any computer through a specialized program called Bitcoin Miner.

In order to offer currency stability the bitcoin system uses an algorithm that automatically adjusts the difficulty of generating new currency. In other words, the higher the demand for bitcoins, the harder it is to produce them, requiring high performance computers to reach the desired result. The bitcoin algorithm is programmed to increase the money supply at a predictable rate until it reaches a volume of 21 million bitcoins in the 2040.

Figure 1 - The evolution of bitcoin issuing

Source: Bitcoin

Currently 25 bitcoins are generated each 10 minutes. In the year 2017 only 12.5 bitcoins will be generated each 10 minutes and their number will halve each 4 years until it reaches the limit of 21 million generated bitcoins. The limitations are imposed by the algorithm's difficulties at a certain point and by the technological resources. Bitcoin is divided in 100 million subunits (eight decimals).

Being a tradable currency, bitcoins can be obtained by selling goods and services or by trading the divisional currencies into bitcoins.

THE BITCOIN AND THE FREE MARKET

The most important aspect of the bitcoin project is the decentralized system. In other words bitcoin was created to run on a virtual free market. The market represents a network in which two persons or institutions trade goods (Rothbard, 1994). Through the market the people voluntarily take part in the trade, respecting private property. The intermediary of the trade is money. According to the liberal doctrine, the currency is nothing more than a good, unanimously accepted by the participants on the market process.

The history of humanity proves that money was created for objective reasons. In order to facilitate the exchange and international division of labour, people have used countless products as money: seashells, sugar or coffee. The market, in its natural self-selection process, selected money to be represented by gold and silver in the form of coins or bullions. This is due to the characteristics of the two metals: rarity which offers a relatively stable value, the fact they were easy to transport and easily dividable, they had a high demand, could be easily homogenized and last but not least, they were enduring (Hulsman, 2012).

The state, in the beginning through the kings and princes that ruled the people, later through democratic representatives, has intervened on the market. By means of coercive laws they obtained the currency monopole as a symbol of national sovereignty.

The actions of authority were not limited only to issuing currency. Having obtained control over the currencies, the princes and kings forged their value. Through market intervention they made citizens

use devalued currencies in the trade process.[*] The gold and silver thus obtained was used to cover the personal expenses of the rulers.

In the era of the paper money the authorities manipulate the citizen by covering their budgetary deficits through taxes and mostly through inflation. On the free market in order to produce money you have to produce goods beforehand. The goods are sold on the market resulting in incomes. But the government increases its revenue without producing and selling goods, without the least of efforts, just by printing paper money.

The effects of inflation and the banking regulations regarding the issuing of currency based on fractional reserves, are known in terms of the consequences occurring on the market: the cyclical activity of the economic crisis (Huerta de Soto, 2006, Hulsmann, 2003, Hayek, 1976).

The element of innovation of the bitcoin algorithm is the fact that it does not facilitate the authorities an effortless process to create money. Bitcoins are formed on a virtual free market, without any intervention from the central authorities or from the governments. The individuals are producing as many bitcoins as they need inside the limitations of the established offer. Why choose a relatively inelastic supply of bitcoins?

The economic reality, as we well know, is characterized by the inequality: unlimited need and limited resources. It must be pointed out that even though money offer major social benefits by streamlining transactions and it contributes to the progress of civilization, an increase of the money supply does not have the same consequences as an increase in the offer of a different product. The economic theory proves that on a market an increase in the quantity of a product leads to a decrease of its price[†]. This does not apply in the case of money (Rothbard, 1994). Increasing the amount of money cannot solve the inequality limited resources/ unlimited needs. Only an expanding offer of goods and services is the one that contributes to progress and economic development. The question of resource scarcity cannot be solved through an increase of the money supply. The consequences of this growth will reflect in a decreased currency purchasing power reflected in an increase of the prices.

Therefore the algorithm through which the bitcoins offer is limited offers stability to the currency and follows the postulate of the classical school of thought according to which inside an economy the amount of money is not important (Rothbard, 1990).

---

[*] Note: the value inscribed on the coin did not correspond with the real amount of gold or silver incorporated in the coin.
[†] The law of supply and demand.

The production of bitcoins takes time and energy consumption, in technical terms in order to produce bitcoins you have to mine. The bitcoins manufacturers, the miners, use energy resources to create the currency. Therefore, the bitcoin system does not allow the monopole of the central authorities. Anyone who wishes is invited to the market to produce bitcoins and is subject to the same rules.

Being formed on a virtual market without the authority's intervention, it can be noticed that the bitcoin covers most of the properties of natural money, of gold and silver: the limited offer with a relatively stable value, being easily dividable and, last but not least, the bitcoin has so far a high demand due to the trading on the virtual markets. The inflation is limited and controlled, programmed inside the Bitcoin software, but it is predictable and transparent to all the parties from the beginning. Therefore the inflation cannot be manipulated by a central institution to affect redistribution for ordinary users.

Another important aspect is that the bitcoin wasn't imposed by a central authority. Its use inside online transactions is due to the free choice of the individuals. From the point of view of hoarding, the bitcoin doesn't replace gold or silver. Through its characteristics of standard value and means of exchange this crypto-currency has passed the test of the free market.

CONCLUSIONS

In the current historic and economic context shook by the crisis and the disbelief in the banking system, the individuals are trying to turn towards natural money formed on the free market. Inside virtual communities, without being able to return to the gold and silver currency, people have created the bitcoin. Through the implementation of this project it can be stated that individuals are aware of the negative implications of state intervention in the monetary field and so they decided to create and use their own currency within online transactions.

In today's world, dominated by the mainstream doctrine it is difficult to foresee a certain and glorious future for the bitcoin currency. Nonetheless, the fact that the bitcoin currency operates inside the virtual communities proves that money is the property of the individuals and not of the state or central bank as we would tend to believe. From a theoretical point of view, I find the bitcoin project as a highly rated initiative, an impulse towards monetary freedom and a return to the liberal principles of the classical school of thought.

REFERENCES

European Central Bank Report (2012) *Virtual Currency Schemes,* http://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf

Hayek, F.A. (1937) *Monetary Nationalism and International Stability*, New York: Logan Green.

Hayek, F.A. (1976) *Free choice in currency*, London: Institute of Economic Affairs.

Huerta de Soto, J. (2006) *Money, Bank Credit, and Economic Cycles*, Auburn, Ala.: Ludwig von Mises Institute.

Hulsmann, J.G. (2003) *Has fractional- Reserve Banking Really Pased the Market Test?,* Independent Review 7, no. 3.

Hulsmann, J.G. (2003) *Optimal Monetary Policy*, Quarterly Journal of Austrian Economics 6, no. 4.

Hulsmann, J.G. (2012) *Etica Productiei de Bani*, Iasi: Alexandru Ioan Cuza University.

Rothbard, M. N. (1994) *The Case against the Fed*, Auburn, Ala.: Ludwig von Mises Institute.

Rothbard, M.N. (1990) *What Has Government Done to Our Money?,* Auburn, Ala.: Ludwig von Mises Institute.

Satoshi, N. (2008) *Bitcoin: A Peer-to-Peer Electronic Cash System*, Bitcoin.org