Money Character of Bitcoin

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In September 2008, Satoshi Nakamoto published the paper [Bitcoin: A Peer to Peer Electronic Cash System](). Over its foundations, on January 3, 2009, Bitcoin appears. Two new concepts was introduced by Satoshi. On the one hand, there is the idea of a safe and fully distributed electronic database among decentralized nodes working in a peer to peer network; the story of this database system is today known as **Blockchain**. On the other hand, arises for the first time the notion of a **Token** as a completely autonomous electronic object; this Token, this autonomous electronic object invented by Satoshi is what, strictly speaking, we known as **Bitcoin**. Let's see now, in this paper, the monetary nature of Bitcoin.

Satoshi shows Bitcoin directly as an electronic coin, which is constituted by: a) a decentralized peer to peer network of servers, completely independent of each others; b) a fully distributed database among these servers, that is updated by adding new blocks of two thousand transactions every ten minutes; c) the users of a Token, who can keep their own records of Token ownership into this database; and finally, d) the Token itself, recorded in the database, for which all property records are kept up and which is used to reward those who connect their servers to keep the network running. For Satoshi, this whole complex of four features constitutes Bitcoin, which was introduced as an electronic currency from the beginning.

After of launching Bitcoin, replicating the same technology (Blockchain) and the same concept of autonomous electronic object (Token) proposed by Satoshi, new applications appeared giving rise to what are called cryptocoins, of which today there are about of one thousand of them. As examples of these cryptocoins we have: Litecoin, Zcash, Ethereum, Monero, Dash, BitcoinCash, BitcoinGold, etc.

Given such a proliferation of these supposed currencies, there is an obvious question that everyone asks themselves: Is Bitcoin a money? If Bitcoin has to be a money, then it has to be consistent with Mises's Regression Theorem (MRT). This theorem is a praxeological sentence, a logical proposition on human production and exchanges, so it is universally irrefutable, no economic good can contradicts it. We must check whether Bitcoin meet it. Let's see why Bitcoin meets MRT test.

Mises argues[1] that a money is that against which all other goods are bought and sold. According to Rothbard, if a given economic good is to become a currency, it must meet four basic characteristics: 1-to be intensely demanded by people in society, that is to say to have some valuable use in production or consumption, because demand doesn't come from thin air; 2-to be completely divisible to make flexible exchanges, so it must preserve its unit value by being arbitrarily divided; 3-to be completely transportable to be able to make those purchases and sales at negligible cost, so it will have to have high unit value, to be very scarce; and 4-to be totally durable, so it must preserve its value over time.

Both, Gold and Silver, clearly fulfill these Rothbardian conditions and for this reason they are now the only commodities which has been chosen as universal money around the world. The fiduciary paper currency, while coercive and compulsively imposed as money, is not a sound money because it does not accomplish the first condition and furthermore it violates the last condition too. What happens with Bitcoin?.

What are we talking about when we talk about Bitcoin? Clearly, Bitcoin is not the technology or platform on which it runs. Bitcoin is not their Blockchain. In all that complex system invented by Satoshi, Bitcoin is the Token. The Token is the basic ingredient of both the database and the Blockchain. Into the database, all records about the Token are stored: who received it for the first time, at what time, the whole history of transactions among different owners, the current ownership of the Token, etc. Additionally, the Token is a key raw material at the time of writing the database story into the Blockchain.

One of most important thing is the fact that the Token is the means of exchange with which it is paid to the servers, or nodes, of the peer to peer network. These nodes are, all the time, working to write the database story in a secure and decentralized way. The node owners demand this Token and receive it in reward[2] for this task, in the same way as the Say's Law[3] predicts it. This is where the Bitcoin barter is found, this is

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1   Mises, Human Action pag. 230: "...The system of economic calculation in monetary terms is conditioned by certain social institutions. It can operate only in an institutional setting of the division of labor and private ownership of the means of production in which goods and services of all orders are bought and sold against a generally used medium of exchange, i.e., money..."

2   In the first four years of Bitcoin, a miner who attaches a block to the Blockchain received 50 Bitcoins, in the next four years he received 25 Bitcoins and currently receives 12.5 Bitcoins. This amount is reduced by half every four years. Both the transaction fee and the issue of Bitcoins form the reward of the block miners.

3   Rothbard, in The Say's Law of Markets, said: "...The problem that limits wealth and living standards is a deficiency of production. On the market, Say points out, producers exchange their products for money and they use the money to buy the products of others. That is the essence of the exchange, or market, economy. Therefore the supply of one good constitutes, at bottom, the demand for other goods..."

where initial exchanges are there. The database and its Blockchain are not viable without the Token.

A very obvious example of the use of a Token as a productive input in a peer to peer network is that of Ethereum system. Ethereum is a platform that allows to create, in addition to the money ones, other applications on Blockchain. You can implement banking systems, assign shares of a company among its owners, raise funds via crowdfunding, apply voting systems, etc. These applications, in order to work, require the -Ether- Token as their basic operational input. Any transaction that these applications execute on the Ethereum Blockchain consumes certain amount of Ether, which is known as gas, to avoid an abusive use of the network, and some amount of Ether issued to reward mining. That is, all running applications use and demand Ether permanently to make current transactions; for writing all story on the Ethereum database it is sued Ether as an operational input: the gas and the issued Ether which are used to keep alive all Ethereum Blockchain applications.

Similar to Ether, Bitcoin Token is an asset intensely demanded in that complex decentralized database system created by Satoshi. The database does not work Without it. In addition, given the definitions established in the Bitcoin protocol, the Token is completely divisible and transferable to any other owner at negligible cost. The durability, the ability of the Bitcoin Token to preserve value, will be determined to the extent as it is required to preserve, to maintain and to operate the Blockchain. All these features could transform Bitcoin into a sound money candidate.

At the beginning of Bitcoin, in 2009, there were only a few mining nodes whose receiving its Bitcoins as retribution for verifying the Token transactions. As the network showed its stability and security in the distributed database administration, more and more voluntary servers joined at the network who started competing for a fixed amount of Bitcoin which is paid every 10 minutes. This fact rise the demand for Bitcoin which, given the rigid offer and its shortage, began to increase its price. This competition for Bitcoin was intensified to such an extent that it was not only desired by miners but also by other people upon learning that many people could accepted it in exchanges.

Then, while this database system was perceived more accessible, reliable and safe than a centralized system, the Token was demanded not only by the nodes but also by other people who could use it to make payments in their usual exchanges. Now, as the news spread about this, there is a growing community that accepts Bitcoin in

exchanges and this Token acquires monetary qualities: it becomes intensely demanded, not to use it as an input in the network activity, but to exchange it for other economic goods. The demand for exchanges, spirals.

But at this time, is Bitcoin a currency? Today it is not, although Bitcoin, the Token, does not violate Mises's Regression Theorem, but fulfills it fully. If at any time, Bitcoin becomes a currency under free market conditions, we can go to the nodes and there observe the barter: that elementary exchange that occurs between the miners and the users of the Blockchain or Bitcoin database. This is what ultimately determines the Money Character of Bitcoin.

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