

# Bitcoin and New Austrian Monetary Theory

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Bitcoin and the blockchain enable users to generate units of currency and transfer funds without intermediaries<sup>1</sup>. With a market cap of approximately \$9.5 billion, bitcoin is the largest decentralized cryptocurrency on the market. Since Bitcoin's launch in 2009, the number of transactions on the network has doubled annually. Currently, the Bitcoin network witnesses over 200,000 transactions every day. The Bitcoin network is becoming a popular payment system because transactions can be sent at anytime of the day, to any place in the world, for a low fee of approximately \$0.09, regardless of the transaction size<sup>2</sup>.

## Austrian monetary theory

Understanding Bitcoin's value as a payment system requires a rigorous study of monetary theory. Although money is used every day to buy goods and services, few individuals understand the purpose of this practice<sup>3</sup>. Even monetary economists disagree on the basic definition of the term money<sup>4</sup>. Mainstream monetary theory suggests that money is a medium of exchange, a unit of account, and a store of value<sup>5</sup>. In contrast, the Austrian School considers money to be the most "saleable" medium of exchange, where "saleable" means marketable (Menger, Principles, p. 260). The Austrian economist Carl Menger argued that money's ability to store value and measure prices is derived from its main function as a medium of exchange: "But it appears to me to be just as certain that the functions of being a "measure of value" and a "store of value" must not be attributed to money as such, since these functions are of a merely accidental nature and are not an essential part of the concept of money." (Menger, Principles, p. 280). Ludwig von Mises agreed: "The functions of money as a transmitter of value through time and space may also be directly traced back to its function as medium of exchange." (Mises, p. 35).

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However, Menger also pointed out that exchange could not take place without first having a store of value to exchange (Menger, 1892, p. 55). Menger argued that certain goods such as livestock, tea, and slaves functioned as a medium of exchange, while precious metals, jewels, and pearls were used to accumulate value (Menger, 1892, p. 56). History supports Menger's theory of money's two distinct functions.

In early agrarian societies, cattle was primarily used as a medium of exchange while wealth was accumulated in salt (Menger, 1892, p. 56). African tribal chiefs hoarded ivory before European merchants began using it as a medium of exchange (Taghizadegan, et. al., p. 82). Since the 1600s, gold has been stored in clearing houses and depositories while paper certificates of deposit became the most marketable medium of exchange. Today, people accumulate wealth in real estate and securities while using fiat to facilitate trade.

Instead of trying to determine if money's function as a store of value relied on its function as a medium of exchange or vice versa, economist Antal Fekete argues that both functions are separate but equally important qualities of a money. Fekete refers to a money's suitability for exchange as "salability" and a money's suitability as a store of value as "hoardability" (Fekete, 1996, p. 16). The former he referred to as "*large scale marketability*" and the latter as "*small scale marketability*". According to Fekete, a good has large scale marketability if the bid/ask spread changes slowly even when supply of the good increases significantly (Fekete, 1996, p. 16).

$$M_a > M_b$$

$$\frac{\partial S_a}{\partial q_a} < \frac{\partial S_b}{\partial q_b}$$

Where  $M_a$  refers to money type a and  $M_b$  refers to money type b. The numerator  $S_a$  refers to spread of money type a and  $S_b$  refers to spread of money type b. The denominators  $q_a$  and  $q_b$  refer to the quantity of each money respectively.

Seasonal and perishable goods have the lowest salability because the bid/ask spread changes significantly as supply increases. In comparison, durable goods have the highest degree of salability. For Fekete, the most important quality of a medium of exchange is portability. A good medium of exchange should be transmittable at a low cost. To elucidate his theory of *large scale marketability*, Fekete describes the high salability of cattle. An increase in the supply of cattle does not significantly impact the bid/ask spread. Fekete attributes this to a cow's ability to move to a less saturated market (Fekete, 1996, p. 16). On the other end of the spectrum, homes do not have a high degree of salability because they are immovable. Evidenced by 2008, the supply of homes on the market greatly increases the bid/ask spread (Taghizadegan et. al., p. 216).



Fekete argues that a good has *small scale marketability* if the price spread remains thin even when supply is decreased (Fekete, 1996, p. 18). In many ancient societies, salt could be hoarded or sold with minimal exchange loss. As salt was quintessential for food preservation, its purchasing power remained relatively constant over time despite market fluctuations (Fekete, 1996, p. 16). The main determinate of hoardability appears to be a good's use value. Gold, grains, sugar, and tobacco have traditionally been used as stores of value.

### Applied to Bitcoin

As a medium of exchange, bitcoin is currently less salable than fiat for several reasons. Primarily, the market for bitcoin is relatively illiquid and small compared to commodity and forex markets. When large supplies of bitcoin are released onto the market by "whales" the change in the bid/ask spread is greater than when similar amount of dollars are released onto the forex market. The sheer size of the dollar network makes the dollar a more marketable good than bitcoin. However, bitcoins have the potential to become the most commonly used medium of exchange. Bitcoin's transmission cost is lower than fiat and bitcoin transactions do not require approval from a third party, such as a bank.

Although, Fekete does not discuss the stability of a medium of exchange, stable purchasing power follows from his definition of large scale marketability. Stability is desirable because money serves as a unit of account that individuals rely on to make decisions. Due to the fluctuations in bitcoin's price, bitcoin is difficult to use as a unit of account. More commonly, bitcoin is used as a speculative investment instead of a medium to pay for daily purchases. Purchases that are made in bitcoin are often juxtaposed besides a fiat currency price for perspective. However, large fluctuations in supply and demand should subdue as the Bitcoin network grows. Once the purchasing power of bitcoin stabilizes, bitcoin is technologically suitable to be a unit of account because bitcoins can be divided down to the eight decimal places.

In regards to Fekete's approach to Austrian monetary theory, bitcoin is a relatively attractive vehicle for hoarding. Despite claims that bitcoin lacks use value, applications of bitcoin are increasing daily. Bitcoin's most innovative use value comes from the blockchain and the proof-of-work-consensus algorithm. For the first time in history, the immutability of math can be applied to payments and record keeping. Voting, auctions, security trading, birth certificate registration, licensing, and many other records can be stored on the public blockchain forever without risk of being changed or tampered with.

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Bitcoin's current value of over \$600 per unit can be partially attributed to its use value within in the network. Sending payments and keeping records on the blockchain requires bitcoins to pay miners the transaction fee. The scarcity of bitcoin was programmed to resemble the earth's finite supply of gold<sup>6</sup>. Bitcoin has a fixed supply of 21 million and bitcoin's inflation rate is programmed to decrease geometrically approximately every four years. Each day, about 1800 freshly mined bitcoins are released onto the market, and this rate is expected to half in 2020, and then again in 2024. Bitcoin's last coin is estimated to be mined in 2140 A.D. Bitcoin's scarcity coupled with the fact that bitcoin are required to record data on the blockchain give bitcoin use value and value as a medium of exchange.

Although bitcoin is not the best medium of exchange or store of value currently, it has the potential to become the first global money to simultaneously fulfill both functions. Future generations may store gold while employing a cryptocurrency as a medium of exchange or cryptocurrency may even replace gold as the best vehicle for wealth accumulation if

debasement or expropriation of gold becomes widespread. Bitcoin faces several hurdles; however, this nascent technology may provide a glimpse of what will eclipse our current system of fiat currencies.

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<sup>1</sup> The literature refers to the Bitcoin ecosystem with a capitalized "B" and refers to the monetary unit, bitcoin, with a lowercase "b." Similarly, Blockchain with uppercase "B" refers to the blockchain explorer company, and blockchain in lower case "b" refers to the distributed public ledger protocol underlying Bitcoin.

<sup>2</sup> Global payments are only one application of this innovative technology. The decentralized blockchain combined with the proof-of-work consensus algorithm can be used for several applications such as recording data, authentication, and trading the ownership of tangible assets.

<sup>3</sup> The practice of using money as a medium of exchange is an abstract concept that evolved over hundreds of years (Hayek, 1945).

<sup>4</sup> For a good summary of chartalism, credit money, and the Austrian theory of money refer to Taghizadegan et al., Chapter 2.

<sup>5</sup> Ben Bernanke and Andrew Abel write, "Money has three useful functions in an economy: It is a medium of exchange, a unit of account, and a store of value. As a unit of account, money is the basic unit for measuring economic value." (Abel et al., 2001).

<sup>6</sup> Milton Friedman's k-percent rule can be realized with cryptocurrency (Friedman, 1960).

*Bibliography*

Andrew B. Abel, Ben Bernanke: *Macroeconomics*. Boston 2001.

Antal Fekete: *Monetary Economics 102: Gold and Interest*. 2003.

Antal Fekete: *Whither Gold?* Memorial University of Newfoundland, St. John's, 1996.

Carl Menger: *Principles of Economics*. Auburn, 2007 (1871), p. 241.

Carl Menger: "Geld". *Handwörterbuch der Staatswissenschaften*. 3rd ed., Jena 1909 (1892), p. 55.

Friedrich A. von Hayek: *The Use of Knowledge in Society*. *The American Economic Review*, vol. 35, no. 4., 1945, p. 519-530.

Ludwig von Mises: *The Theory of Money and Credit*. New Haven, 1953, p. 61.

Rahim Taghizadegan, Ronald Stöferle, Mark Valek, Heinz Blasnik: *Austrian School for Investors - Austrian Investing between Inflation and Deflation*. 2015.



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