**PITFALLS OF THE STOCK TO FLOW MODEL OF BITCOIN**

According to BuyBitcoinWorldwide, as at September 29, 2020, roughly 53 million people round the world have begun trading bitcoin. This is a far cry from the few that were interested in this cryptocurrency in 2009 following its inception. The rise in popularity of bitcoin has led to all sorts of investing strategies and models claiming to estimate the value of bitcoin. One of which is the Bitcoin Stock to Flow Model made popular by the pseudonymous Dutch investor, PlanB.

The Stock to Flow Model (S2F) measures abundance of a resource. It is the resource held in reserves (the stock) divided by the amount it is produced annually (the flow). The higher the S2F, the less new supply enters the market. It is generally applied to store of value resources like gold.

S2F is essentially a model for explaining and predicting Bitcoin’s price in relation to its scarcity or more specifically its emission rate which is the amount of new BTC being mined while taking into consideration the current amount of BTC available.

The assumption therefore is that “… scarcity as measured by S2F directly drives value …”

This model’s popularity increased following the May 21, 2020 bitcoin halving which cut the supply of bitcoin in half and led to an abrupt increase in the price of bitcoin. However, new arguments have come up disputing S2F and some of the early proponents of the model have changed sides.

Initially, the S2F ratio of Bitcoin and its USD value were said to be positively correlated. Unfortunately, bitcoin’s price was highlighted to be correlated with the price of avocados from June 2018 to August 2019 making the correlation inconclusive and unreliable.

The bitcoin S2F model and price relationship also hinged on co-integration being true. However, in order for two values to be co-integrated, we require two variables with an equal order of integration. This is not the case for S2F and price as they are both different orders of integration as explained by Marcel Burger. Hence, the integration argument breaks down and we are no longer able to prove that the relationship between the price of Bitcoin and S2F is not spurious.

Following the criticisms surrounding the Stock to Flow model, PlanB came up with the Stock to Flow Cross Asset (S2FX model) that essentially tried to gloss over the detriments of the original S2F model.

This S2FX model pulls silver, gold, S2F relationships and their price into a cross asset model. PlanB pulls in a transition of BTC from payments, to medium of exchange, store of value and claims that in the future it can go into similar price clusters such as silver and gold that relate to its S2F ratio.

In conclusion, there could still be some relation between Bitcoin’s price and scarcity - just not with the original Stock to Flow model.

Similarly, other macro factors that could drive Bitcoin’s appreciation include massive printing of fiat currency round the world, its digital first nature, its volatility and the technology and infrastructure improvements that make it easier to use and adopt as time goes on.