Bitcoin stock-to-flow method

The bitcoin's stock-to-flow (SF) method is a valuation model that utilises the current supply (stock) and production rate (flow) of the cryptocurrency to place a value. Similar model has always been used in the valuation of other scarce commodities, especially gold. The mining rate of gold globally is significantly lower than the currently mined gold, this gives gold a high SF value of 59.9[1] as of 2019. With a current circulation of 18 million bitcoins and mining rate of 700,000 coins per year, bitcoins SF value is approximately 25[2].

This model popularised by an individual known as PlanB[3], has been used to predict the price of bitcoin and has also forecasted high prices for the cryptocurrency (the essay predicted a price of $55,000 after the May 2020 halving event, bitcoin price has not crossed $13,000 this year), the model forecasts a price of $288,000 in the next halving event in 2024[4]. Halving refers to the cutting in half the number of coins miners obtain. These events play a big role in further elevating the scarcity of bitcoins.

In PlanB's model, he plots a linear regression line on a scatter plot of bitcoin's market value and it's SF which is basically a numeric value of scarcity. The regression line shows a direct linear relationship between the two variables (market value and SF). He concludes with also drawing credence for this model from how well it fits for gold and silver.

Scarcity is an important factor in this model. This model accounts for only the scarcity of bitcoin and assumes scarcity invariably leads to high value. In PlanB's essay, he states "The hypothesis in this study is that scarcity, as measured by SF, directly drives value"[3], but this is not complete especially when value means price. Economic price principles account for high demand and low supply for high prices. A model only calling into account the low supply of a product in forecasting higher prices does a bad job. If bitcoin's supply keeps decreasing with these halving events and demand does not increase, the price may not likely increase. So in forecasting high prices based on lower supply, high demand also needs to be forecasted. Unfortunately, this model does not speak about the demand forecast of the cryptocurrency.

Price movements are seen due to shifting demand and supply, "The price for a scarce good should rise until an equilibrium is reached between supply and demand"[5].

The SF model works well with gold and other natural resources, this is because the demand of these items keeps increasing, something he does not account for in his conclusion. The high demand for bitcoin we see today explains why this model has so far seemed to be accurate in predicting prices, but the demand increase has to continue for the model to work well into the future.

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1. https://seekingalpha.com/article/4357409-golds-stock-to-flow-ratio-and-why-matters
2. https://academy.binance.com/economics/bitcoin-and-the-stock-to-flow-model

3. https://medium.com/@100trillionUSD/modeling-bitcoins-value-with-scarcity-91fa0fc03e25

4. https://cointelegraph.com/news/bitcoin-is-targeting-288k-stock-to-flow-price-like-clockwork-planb

5. https://www.investopedia.com/terms/s/scarcity-principle.asp