**BITCOIN STOCK-TO-FLOW MODEL**

Founded by a computer scientist under the pseudonym Satoshi Nakamoto in 2009, Bitcoin is a digital currency that is not subject to the control of central authorities and is without inflation (Figa-Talamanca and Cretarola, 2018). To understand and predict the price behavior of this asset, a number of models have been put forward. Among these models is the ‘*Stock-to-Flow’* model.

Bitcoin stock-to-Flow model originated from the commodity-market analysis. The Stock-to-Flow (S2F) model is hypothesized on the ability of scarcity to drive the value of a commodity. Bitcoin stock-to-flow is the ratio of the reserve of Bitcoin to the volume of Bitcoin mined in a year. Historically, the commodity with the highest stock-to-flow ratio has been used as money because it enables the best value transfer over time. This is why gold has remained valuable perpetually. The supply of gold cannot be increased indiscriminately because it is relatively scarce to mine. Increasing the price of gold will only lead to an insignificant volume in its production. As such, gold is described as a *high stock-to-flow* commodity. An increase in the price of commodities like palladium will dilute the stockpile, invariably crashing its price. (Plan B, 2019). Bitcoin was explicitly designed in this fashion, making it a digital currency that is able to retain its high value perpetually.

Extrapolating Bitcoin’s stock-to-flow model into the future generates interesting insights. However, stock-to-flow model has unforgivable flaws. This model assumes that the USD market capitalization of a monetary good is derived directly from supply without formidable evidence. This assumption is solely backed by singular data points selected to chart gold and silver’s market capitalization with Bitcoin’s price trend. The S2F model is based on a linear regression using the natural logarithm of Bitcoin’s S2F metric as the independent variable and the USD market capitalization as the dependent variable. This gives a R-square of ~0.95, indicating a significant relationship between Bitcoin SF values and USD market capitalization. High R-square often leads to false results, especially where there is a large degree of freedom for random data to fit a specific outcome. “Many a statistic is false on its face. It only gets by us because the magic of numbers brings about the suspension of common sense” (Huff, 1954). Lastly, Bitcoin mining energy consumption irrationalizes S2F model. For Bitcoin to achieve the 2024 S2F price forecast, 10% of the earth’s energy will be consumed. In 2028, it would consume nearly 60% of global energy and in 2032 (the craziest), three Earths will be needed to mine Bitcoin (348% of global energy) to validate stock-to-flow forecast (Tapon, 2020). Again, the S2F model is flawed.

In conclusion, the Bitcoin stock-to-flow model is outrageously optimistic. Yes, there is a strong correlation between the asset’s S2F and its market value. It bears mentioning that even a broken clock is correct twice a day. Given the unrealistic predictions, statistical flaw and simplicity, the Bitcoin SCF model is an unreliable concept to analyze and forecast Bitcoin price behavior.

***References***

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