ASSET MANAGEMENT

market notes: The Truth is (Not) Out There

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1. Reflexivity is a concept I was introduced to in 1989. Like my introduction to bitcoin, it was intriguing enough to keep in long-term memory, but tangential enough that it took me a while to internalize. Equilibrium is a concept that most sciences, even social ones, strive for as a unified underpinning of everything. Reflexivity makes a strong declaration on equilibrium – it's bunk, not a relevant concept in behavioral disciplines like finance.

2. I took this to mean the world of finance was highly nonlinear. Casual observation easily supported the claim. I wrote an undergraduate thesis on the nonlinearities of stock market rumors on share prices – I had no pedigree so the risk of failing miserably on an overly ambitious project was low. Like the story of stone soup, once the project started, a community gathered to bring it to the finish line. The results were fun, and that paper landed me a job.

3. But there's a problem – institutions are quite comfortable thinking in linear approximations and equilibrium terms. Having an "independent thinker" to roll out on special situations is useful, but decision-making is anchored to stylized models. The justification is, ironically, reflexive. Surviving means managing risk relative to peers – if bad things happen to everyone, it's "a shock." Nobody gets blamed for the results.

4. Only, it's not a shock. Reflexivity is a feedback loop between expectations and fundamentals. It's self-reinforcing, not tethered by the gravitational pull of a fundamental truth. Value investing won last year. This year, it's all about growth – quantitative tightening, higher rates, and bank failures be damned. Growth sectors didn't start the year cheap on equilibrium methods. And the growth-to-value gap has only widened – price-to-book of growth ETFs is 7.17x versus 2.67x in value.

5. This is reflexivity at work. The impact of expectations is clear in Artificial Intelligence, trivially quantified on Google Trends and in casual conversation. “Dude, where’s your AI integration?” Just as the internet bubble led analysts to separate tech from the valuation of conventional companies in sum-of-the-parts analysis, the fundamental value of AI is being inflated by expectations of its rapid improvement to future profitability of large tech companies.

6. It won’t last. Fundamentalists will argue that as a point of truth. Reflexivity argues that it is a natural ride of expectations interacting with a positive fundamental story. This has a natural connection to crypto. Bitcoin is energy conversion. Miners convert energy used to power computer machines and turn it into a bitcoin asset. And there’s limited supply. Bitcoin is a commodity whose fundamental value is clearly derived from energy and scarcity.

7. The average cost of bitcoin production is estimated to have been in a $30k-to-$40k range in the past three months. Past mining investments are still coming online, elevating competition and keeping the cost of production high despite a decline in energy input costs. We can safely say that bitcoin’s valuation isn’t fundamentally stretched even after its substantial rise. Markets provide confirming signals – the cost of leverage and demand for calls over puts are low.

8. Scarcity is where the reflexivity concept shines. With a fixed supply of bitcoin, a growing network of demand leads to asymmetric upside. The concept is operationalized through stock-to-flow (S2F) analyses – the time that it takes at the current rate of supply to replenish the stock. The longer it takes, the greater the scarcity, and the greater the price response to rising demand. It’s applicable to any asset, not just bitcoin – it fits US housing very well.

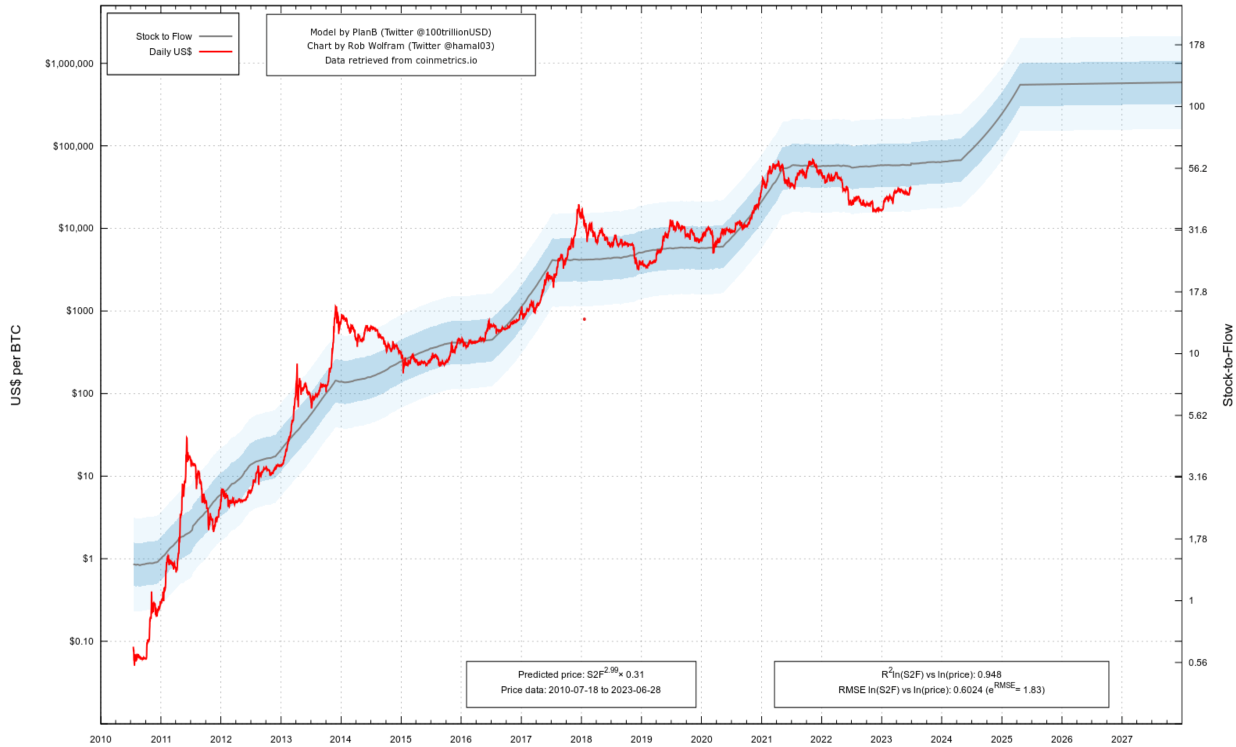
9. S2F scarcity model says that bitcoin is trading at a material discount. And as we approach the halving of bitcoin rewards next Spring, S2F points to a price more than $1 million (Figure 1). It’s wrong. Every model is. The only issue is the degree. The S2F model fails in limit case – prices rise to infinity. Yet, S2F is used. We use it. It’s a proxy fundamental that interacts with expectations, excitedly when prices are rising above the prediction and depressingly in reverse. Just as reflexivity predicts.

10. Say you took the S2F estimate literally. Bitcoin has 40-times the upside over the next two years – a $1,200k price from the current $30k. The risk reward could be judged sufficiently compelling to encourage leveraged buying – even if not needed. Now, let’s imagine prices suddenly drop –a “shock.” The investor becomes a trader, having to meet margin to avoid losing their exposure, like March 2020. The newly-issued leveraged exchange-traded funds, BITX, is a useful instrument for monitoring these dynamics.

11. The goal of BITX is to generate twice the return of the S&P CME Bitcoin Futures Index. Why settle for 40x when 80x is at your doorstep? Only, it isn't 80x. The Index is based on the nearest CME contracts, not spot prices. So, a rise in leveraged demand that increases the forward price dilutes the performance versus spot. And total positions on the CME are only 0.4% the size of the spot market with most trading in the first contract. That dilution can be very large.

12. Reflexivity reminds us that the volatility induced by expectations is a two-way street – they can boom and bust around slower underlying fundamentals. It starts with a story – like asset scarcity for a network with rising demand. Even with the doubling of bitcoin's price from recent lows, expectations are sanguine today. Rising leverage would flip the switch on the reflexivity cycle. Remember the lesson investors are destined to learn, again, and again – leverage and crypto don't mix.

Figure 1 – Stock-to-Flow and the Price of Bitcoin



Source: Bitcoin's stock-to-flow charts https://s2f.hamal.nl/pages/about-site.html

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One River Digital Asset Management has been acquired by Coinbase and is now Coinbase Asset Management. Additional details on the transaction may be found on the Coinbase blog. References to One River Asset Management and One River Digital Asset Management may be contained herein during the transition period but are subject to change.

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