

## End Notes:

[1] Source: <https://news.bitcoin.com/bitcoin-fomo-paul-tudor-jones-stan-druckenmiller-invest-millions-btc/>

[2] This wisdom is encapsulated in an expression popular amongst Bitcoiners, “stay humble and stack sats.” stack sats because bitcoin’s superior monetary characteristics almost guarantee it will outperform every commodity in the long run but stay humble because nobody can confidently predict its price behavior over the short-term.

[3] To quote Raoul Pal on now-defunct Terra, clip available: <https://www.youtube.com/watch?v=KiYkijPlqU>

[4] The term “security” refers to a fungible, negotiable financial instrument that holds some type of monetary value. A security can represent ownership in a corporation in the form of stock, a creditor relationship with a governmental body or a corporation represented by owning that entity’s bond; or rights to ownership as represented by an option.

[5] See <https://henrytapper.com/2022/09/29/anatomy-of-a-crisis/> or <https://www.ft.com/content/2a2e7a9b-d984-45c1-8ada-0d0a6e57911b> for a more detailed explanation.

[6] As recounted and analysed by Nic Carter here: <https://www.piratewires.com/p/crypto-choke-point>

[7] At the core of all financial mathematics lies the idea that volatility, often measured by the standard deviation, is a proxy for “risk”. This is untrue because markets are uncertain, not risky: you can’t know a priori the distribution of outcomes; or to put it more scientifically, financial markets are not ergodic, which is a fancy way of saying that as an investor you care more about the performance of your portfolio than the dispersion of the returns in the ensemble, especially if you used leverage. See Peters, O. The ergodicity problem in economics. Nat. Phys. 15, 1216–1221 (2019). <https://doi.org/10.1038/s41567-019-0732-0>.

[8] The reader can download this script, spreadsheets, and all data used in this article [here](#).

[9] Technical introduction to DLC’s available here: <https://github.com/discreetlogcontracts/dlcspecs/blob/master/Introduction.md>

[10] n.b. For brevity, some details are omitted here; for a more exhaustive explanation, refer to articles from Suredbits (available here: <https://suredbits.com/discreet-log-contracts-part-1-what-is-a-discreet-log-contract/>) and Théo Pantamis (available here: <https://blog.lnmarkets.com/cryptography-of-dlcs/>)

[11] For variations, we might agree on uneven odds, like a 3-to-1 victory, achieved by structuring CETs reflecting such payouts

[12] Practically speaking DLCs are not trustless, as contract enforcement still depends on the oracle, but it is possible to choose multiple oracles during the setup phase so that payout can be claimed even if one or multiple oracles are not cooperative or fail to attest. Besides, during the setup phase, parties also exchange pre-signed refund transactions with a timelock thereby enabling parties to get their funds back if all oracles fail to attest.

[13] Again a trade-off exists. If they concur, the two parties could “renew” their current DLC, thus allowing the “winning party” to withdraw some excess collateral, and/or the “losing party” to post more collateral. It can help a lot with position rolling, but diminishes the hedging surface: with such arrangements, some tail risks re-emerge.

[14] Technical explanation available here: <https://suredbits.com/transferring-in-channel-lightning-dlcs/>

[15] See here for more information: <https://10101.finance/blog/dlc-to-lightning-part-1/>

[16] The Road To Financial Repression, Théo Mogenet, available: <https://theomogenet.substack.com/p/the-road-to-financial-repression-fe9>