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OPTION THEORY FOR CRYPTO VALUATION

Cryptocurrency valuations are often describe as “bubbles”. Instead of the token price reflecting future potential value, the price is going up simply because people believe it will. Since a cryptoasset doesn’t entitle to underlying cash flows, it’s all pure speculation.

First, what are cryptoassets ?

They are the fuel that powers a new form of decentralized technology infrastructure that is being built on top of the foundational internet protocols.
Ethereum is a smart contract platform that allows developers to create decentralized applications.
Bitcoin is a store of value that allow users to participate in this decentralized application space without the need for fiat currencies.

Second, what are cryptoassets worth ?

Clifford Asness and John Liew mentionned:
« Another efficient markets defense of the tech bubble was based on options theory. The idea was that since these stocks would either revolutionize the world or go bust, the volatility of the underlying business was enormous. If you think about a stock as a call option on the value of the underlying business, then this huge volatility justified the high prices (…)».

Following that reasoning, the purchase of utility tokens can be conceptualized as a call option on the right to use or contribute to the product if the token project team successfully invents something innovative and valuable.

A token becomes a call option on the real economic value of both the currently envisioned use cases, and those that can only be conceived once these current uses eventuate.

Once we outline this new model, best thought of as an adjusted form of Black-Scholes framework for options valuations, the current intrinsic value of most cryptoasset is likely very low given that no fundamentally transformative blockchain technologies have caught on or achieved high adoption and utility yet.

Consequently, cryptoassets' value is mostly composed of options' time-value (with undefined time horizon) which justifies massive volatility levels.

Cryptoassets can be valued as a hedge against the potential disruption of existing industries. This reasoning helps understand the massive volatility of the underlying project value, which is one of the major factors driving high observed utility token prices beyond what seems justified by actual infrastructure development.

Inspired by « An efficient-markets valuation framework for cryptoassets using Black-Scholes Option theory » by Johnny Antos and Reuben McCreanor.