Cryptocurrency Valuations: Valuation Theory Framework

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Introduction:

Bear Market Valuations ("BMV") is a research group focused on identifying value opportunities in turbulent (and often depressed) markets. Given the dramatic price depression in the Cryptocurrency markets, BMV believes there may be specific sectors where overcorrection has occurred, and price has deviated from fundamental value. **BMV utilizes traditional financial valuation methods where possible**, and places little weight on estimations of future speculative growth or 'adoption'.

While the contributors to, and authors of, BMV choose to remain anonymous, they have backgrounds in traditional financial nad management consulting fields.

Focus for this Report:

This BMV report is focused on providing an overview of different valuation methodologies currently used to value cryptocurrencies, as well the methodology that we believe is the most applicable. We have found this framework to be the most objective *(aka least biased by projections / assumptions)* given the high uncertainty for assets in this space.

I.   **Overview of Valuation Methodologies**
II. **Cryptocurrency Market Observations**
III. **Call Option Theory**

Going forward, BMV will use Option Theory to price selected Cryptocurrency assets

At a high-level, the below overview shows the majority of traditional valuation techniques, the inputs they require, and the historical financial background for each.

Valuation Theory	Description	Inputs Required	History / Type
Discounted Cash Flow (NPV)	*Create a valuation by discounting all projected cash flows by time and risk factors[1]*	▪ Projectable Cash Flows ▪ Clear Investment Risks	**Company Valuation** *(Absolute)*
Dividend Discount Model	*Create a valuation by discounting all projected dividend payments by time and risk factors[1]*	▪ Projectable Cash Flows *(dividends)* ▪ Clear Investment Risks	**Company Valuation** *(Absolute)*
Comparable Valuation	*Create a relative valuation by comparing company ratios (Price-to-Earnings, etc.)*	▪ Industry / Competitive Set Ratios	**Broadly Applied** *(Relative)*
Sum-of-the-Parts Value	*Create a baseline valuation by aggregating the market value of the individual components*	▪ Distinguishable Assets[2] ▪ Liquid Asset Markets	**Company Valuation** *(Absolute)*
Quantity Theory of Money	*Loosely project the price of a currency based on inflation, value, and currency velocity*	▪ Inflation ▪ Network / Transaction Value ▪ Number of Users	**Macroeconomics** *(Absolute)*
Network Value to Transactions	*Rough valuation based on network valuation relative to value transmitted; similar to Metcalfe's law*	▪ Network Value Transmitted	**New[3]** *(Relative)*

[1] BMV believes the nature of this market requires independent discount rates, as WACC may not take all risks into account

[2] This would refer to assets that can be individually broken down and sold, traditionally property, plants, and equipment

[3] https://cryptoresearch.report/crypto-research/the-network-effect-as-a-valuation-methodology/

Cryptocurrency Valuation Framework(s) | Market Observations

There are differences in Cryptocurrency valuations from those for traditional financial assets

There are a number of fundamental differences in valuing cryptocurrency assets relative to traditional financial assets.

Missing Data for Traditional Analysis	*Additional Factors to Be Considered*
1. **Cash Flows:** There are very few cryptocurrency assets with incoming cash flows[1]	▪ **Trust:** There is a considerable lack of accountability as there is no claim on a company's assets
2. **Comparable data:** There are no existing 'successful' models that can be used for comps.	▪ **Uncertain Adoption:** Network effects will be the primary driver for the majority of financial payoffs, not direct cash flows
3. **Piecemeal Assets:** Similar to services firms, there are few assets that can be broken down and sold for liquidation	▪ **Non-Forecastable Developments:** There may be unanticipated DLT or Blockchain applications in the future
4. **Overall Value:** There are only rough projections, such as Bitcoin targeting gold's market cap. Off-chain transactions increase opacity.	▪ **Sybil Resistance Schemes[2]:** Proof-of-Work, Proof-of-Stake, etc. introduce game theory elements to payoffs

While the quantity theory of money can be used in some instances, BMV believes option payoff theory can be used to value many cryptocurrencies

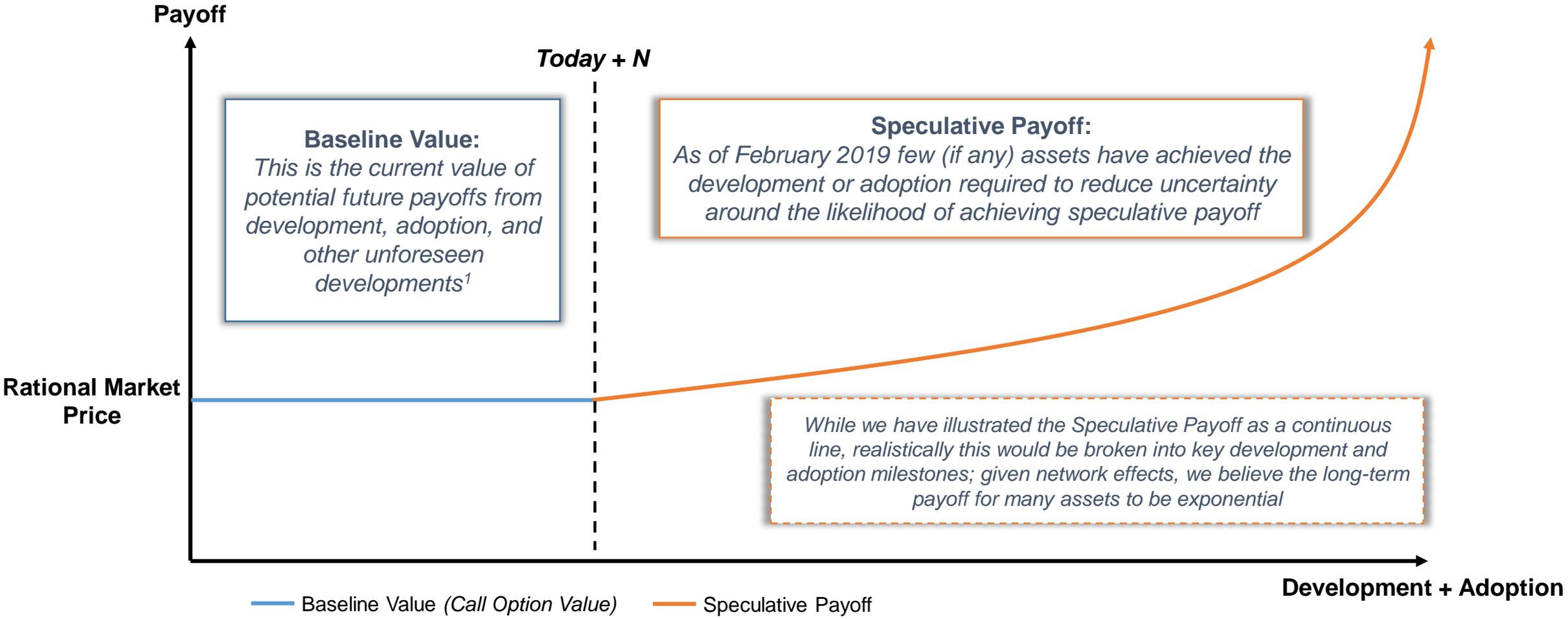---

[1] *As of February 25th, 2019; KuCoin Shares represent an example where there are incoming cash flows, this may change as Security Tokens increase*
[2] *https://medium.com/coinmonks/a-primer-on-blockchain-design-89605b287a5a*

Payoff

Today + N

Baseline Value:
This is the current value of potential future payoffs from development, adoption, and other unforeseen developments[1]

Speculative Payoff:
As of February 2019 few (if any) assets have achieved the development or adoption required to reduce uncertainty around the likelihood of achieving speculative payoff

Rational Market Price

While we have illustrated the Speculative Payoff as a continuous line, realistically this would be broken into key development and adoption milestones; given network effects, we believe the long-term payoff for many assets to be exponential

— Baseline Value *(Call Option Value)*   — Speculative Payoff

Development + Adoption

[1] *Given the uncertainty around Blockchain and DLT application, there is potential for unforeseen upside for the speculative payoff*
Note: All Terms are defined in Appendix I

APPENDIX

Call Option Theory Terms

Rational Market Price: Value of discounted adoption, future development, and other non-specified payoffs

Payoff: This is the financial return. Price should equal payoff.

Today + N: An abbreviation for sometime in the future

Development + Adoption: This should underpin the payoff. More development and adoption should be correlated with a higher price.
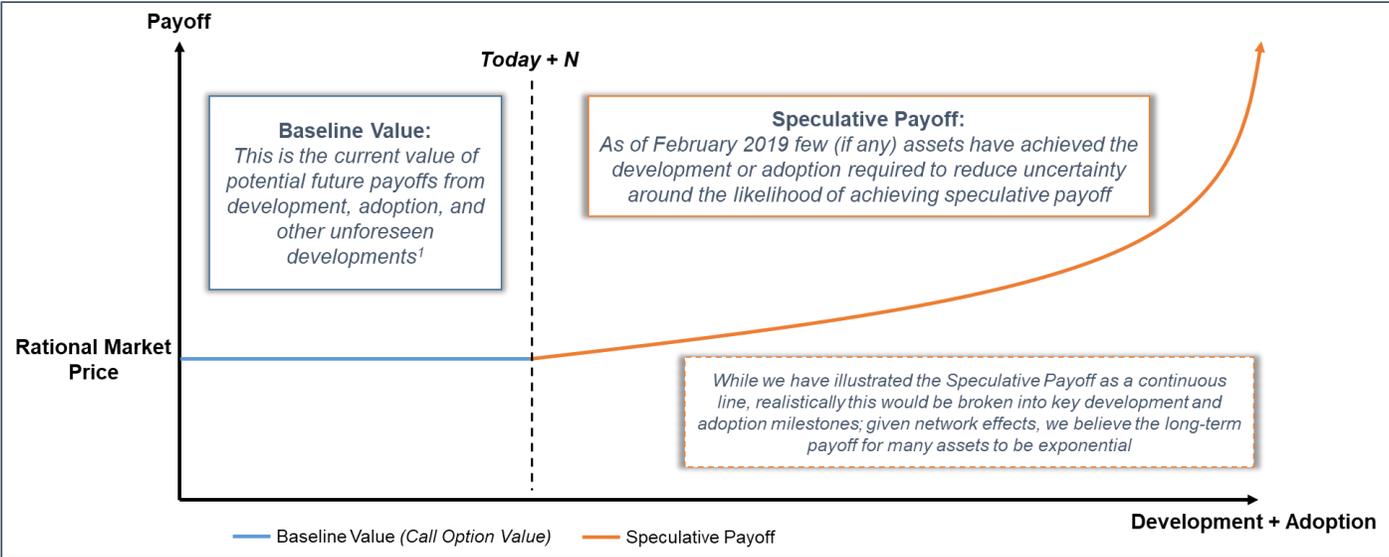
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