coinbase ASSET MANAGEMENT

market notes: A Benchmark for Digital Assets

17 March 2022
Marcel Kasumovich & Paul Ebner
Coinbase Asset Management

market notes: A Benchmark for Digital Assets
3/17/22 - Marcel Kasumovich and Paul Ebner, Coinbase Asset Management

1. Picking winners from losers is hard. The number of digital assets surpassed 18,000 in March, an increase from only 636 in January 2017 (here and here). Buried in that increase are future giants such as Solana, Cardano, Polygon, and Uniswap. Bitcoin and Ethereum were the only two constants during this period of explosive growth. But how is an investor to judge performance? Is a 25% CAGR over five years good enough? Not nearly if you wanted to remain one of the 20 most valuable assets. Of the top 20 assets in January 2017, only five retain their spots today. Should a wary investor just HODL bitcoin? That's one option. But that would have meant missing out on ether's ascent, at twice the rate of bitcoin.

2. Investors need better options. They need a benchmark. A benchmark provides a simple investment choice and a useful yardstick to measure others. It enables investors to differentiate the skill of asset selection from broad asset class exposure. In traditional markets, there are more equity indices than individual stocks. In the digital arena, the opposite problem exists. Indexation in digital assets is in its infancy and often too raw for institutional engagement. Some indices have a static list of tokens that do not evolve. Others cover too broad a universe that is not scalable. A few included tokens with too much regulatory uncertainty for an institutional investor to hold. This led us to create One River Digital Indices.

3. We designed our indices with three goals: to be dynamic, to be rules based, and to be institutionally investible. Fundamental criteria narrow the investable universe to a set of sustainable projects that avoid potential future regulatory potholes. Minimum market capitalization and liquidity criteria ensure the final constituents are liquid enough for the Index to scale. Tokens must meet all criteria for multiple quarters before joining the Index, avoiding fads and pumps. Twelve digital assets made the grade at the time of launch. The Core Index weights tokens based on their market capitalization (here). The Size Tilt Index does as it says on the tin, with a systematic tilt of weight towards smaller assets (here). All of this is done under the purview of MVIS, a regulated index provider and valued partner.

4. Why a Size Tilt? Weighting only by market cap concentrates share in today's dominant incumbents. Investors who see smaller assets emerging into critical components of the digital ecosystem may want a systematic, higher allocation ahead of their expected rise in market cap. The mathematics behind the tilt is elegant and robust. Ranking tokens quarterly by the square root of their market cap naturally favors the smaller tokens. More importantly, it is time-consistent; the impact of the square root function also naturally decreases over time as the market matures and becomes more evenly distributed. At the time of launch, the bottom 10 tokens of the Size Tilt Index account for roughly 40% versus roughly 10% of the Core Index. It is just enough of a redistribution to add potential growth and diversification.

5. Where does the Index fit in a portfolio? That is up to the numbers. And the numbers are compelling. We computed historical monthly returns from 2017 to February 2022 and evaluated conventional analytics for equity, bond, and digital assets, exploring how digital assets could have interacted with equity-bond portfolios at specific stages of investment cycles. What's clear in the analytics – there is value to including digital in portfolios, and a lot of it. We highlight three key conclusions from the analyses.

6. **First, our indices benefit from capturing value beyond bitcoin**. The simulated returns and Sharpe ratio for both the Core and Size Tilt indices were superior to owning bitcoin by itself (Table 1). The Size Tilt methodology over the five-year period would have annualized gross returns 20% above bitcoin based on monthly data, more than compensating for the increased volatility and estimated rebalancing costs. And the Core Index managed to deliver more than 6% annualized gross returns above bitcoin with only slightly higher volatility and lower expected rebalancing costs than the Size Tilt Index.

7. **Second, the indices have diversification value, notable during bitcoin's down markets**. Table 2 illustrates the participation of equity, bond, and the One River Digital Indices during positive and negative months for bitcoin. The indices capture the same or more of bitcoin's upside. But the indices also capture less of the downside in bitcoin's performance. The Core Index captured on average only 94% of bitcoin's monthly downside and the Size Tilt even less at 87%. This benefit speaks to the value of diversification that will likely grow over time. The Core Index's return correlation to bitcoin over the period was 0.91 and Size Tilt's correlation to bitcoin was only 0.83 using monthly returns.

8. **Third, a broader investment in digital assets would have better complemented a traditional portfolio**. Re-allocating from the traditional 60/40 stock/bond portfolio to a 60/38/2 allocation including digital assets improves performance notably. A 2% allocation to Size Tilt would have boosted the equity upside capture to 72% versus 63% for a traditional stock-bond portfolio while maintaining the same equity downside capture ratio. Again, these are improved results to using bitcoin alone.

9. Broadly, the benefit from adding digital assets comes from higher, uncorrelated secular returns to either stocks or bonds. The secular dispersion is especially clear in the performance of our indices during equity drawdowns – digital asset returns are positive on average in months where equity prices are lower (Table 3). This phenomenon comes from the compressed deleveraging that happens in digital assets. The drawdown is faster and steeper than equities as levered positions are liquidated. But the recovery happens sooner as well.

10. Alas, the past is history. Investors are left to consider the historic analytics in the context of expected future outcomes. The main consideration is bond portfolios – everyone is hunting for diversified returns away from bonds, not surprisingly given bonds are promising negative real returns for several decades. Digital worked in the past half-decade, and we have barely scratched the surface of its future potential. As regulators invite digital assets into the mainstream, the growth in participation can be explosive. We built a benchmark to track it in a systematic, structured way. Staking and tokenization are all possibilities still to come. Let's go.

Provided for illustrative purposes only. Please see the footnotes and important disclosures for additional information regarding the use of indices and hypothetical portfolio performance.

Table 1 – Asset Performance 2017-2/2022 (annualized, monthly)

	Equity[1]	Bond[2]	Bitcoin[3]	Core Index	Size Tilt Index
Return	15.9%	2.8%	105.9%	112.5%	127.6%
Volatility	15.4%	3.2%	91.3%	94.6%	109.4%
Sharpe	1.0	0.5	1.1	1.2	1.2

Sources: MVIS. Crypto Compare. Coinmarketcap.com. Bloomberg. ORD Calculations.

Table 2 – Upside/Downside Participation[4]: Bitcoin Benchmark 2017-2/2022

	Equity	Bond	Bitcoin	Core Index	Size Tilt Index
Upside	9.0%	1.0%	100.0%	100.3%	106.1%
Downside	0.9%	(1.4%)	100.0%	94.3%	87.2%

Sources: MVIS. Crypto Compare. Coinmarketcap.com. Bloomberg. ORD Calculations.

Table 3 – Upside/Downside Participation: Equity Benchmark 2017-2/2022

	Bitcoin	Core Index	Size Tilt	60-40%[5]	60-38-2% (Tilt)
Upside	345.8%	385.5%	446.5%	62.9%	71.7%
Downside	(58.8%)	(6.8%)	8.3%	58.2%	58.5%

Sources: MVIS. Crypto Compare. Coinmarketcap.com. Bloomberg. ORD Calculations.

Table 4 – Asset Performance 2017-2022 (annualized, monthly)

	60-40%	60-38-2% (Bitcoin)	60-38-2% (Size Tilt)
Return	10.8%	13.2%	13.6%
Volatility	9.5%	10.0%	10.2%
Sharpe	1.0	1.2	1.2

Sources: MVIS. Crypto Compare. Coinmarketcap.com. Bloomberg. ORD Calculations.

[1] The S&P 500 Total Return Index is the S&P price change plus reinvested dividends.
[2] The U.S. Treasury Total Return Index is U.S. dollar, fixed-rate, nominal debt issues by the U.S. Treasury.
[3] Represents the historical price of bitcoin from 1/1/17 – 2/28/22.
[4] Upside (downside) participation represents the return of assets as a percentage of the benchmark during monthly increases (decreases) in the benchmark asset price. A participation rate of 100% means that an asset had identical performance to the benchmark.
[5] Represents a hypothetical portfolio comprised of 60% equities and 40% bonds. The underlying assets based on the S&P 500 total return index and the U.S. Treasury Total Return Index. Rebalancing is monthly and costless.

Disclaimer:

This communication, including any attachments, is intended only for the use of the addressee and may contain information that is confidential or otherwise protected from disclosure. Any unauthorized use, distribution, modification, forwarding, copying or disclosure is strictly prohibited. If you have received this communication in error, please delete this message, including any attachments, and notify the sender immediately. The information and any disclosures provided herein do not constitute a solicitation or offer to purchase any security or other financial product or investment and is not intended as investment, tax, or legal advice. Unless otherwise noted, all information is estimated, unaudited and may be subject to revision without notice. Past results are not indicative of future results.

This communication may contain statements of opinion, including but not limited to, the author's analysis and views with respect to: digital assets, projected inflation, macroeconomic policy, and the market in general. Statements of opinion herein have been formulated using the author's experience, research, and/or analysis, however, such statements also contain elements of subjectivity and are often subjective in nature. In addition, when conducting the analyses on which it bases statements of opinion, the author(s) will incorporate assumptions, which in some cases may be shown to be inaccurate in the future, including in certain material respects. Nothing in this presentation represents a guarantee of any future outcome. The author(s) are under no obligation to update this document, notify any recipients, or re-publish the content contained herein in the event that any factual assertions, assumptions, forward-looking statements, or opinions are subsequently shown to be inaccurate.

Certain information contained in this Communication constitutes "forward-looking statements," which can be identified by the use of forward-looking terminology such as "may", "will", "should", "expect", "anticipate", "target", "project", "estimate", "intend", "continue" or "believe" or the negatives thereof or other variations thereon or comparable terminology. Forward-looking statements made in this communication are based on current expectations, speak only as of the date of this communication, as the case may be, and are susceptible to a number of risks, uncertainties and other factors. Assumptions relating to the foregoing involve judgments with respect to, among other things, projected inflation, the regulation of digital assets and macroeconomic policy, all of which are difficult or impossible to predict accurately and many of which are beyond our control. In light of the significant uncertainties inherent in the forward-looking statements included herein, the inclusion of such information should not be regarded as a representation to future results or that the objectives and plans expressed or implied by such forward-looking statements will be achieved.

Certain information contained herein may have been obtained from third party sources and such information has not been independently verified by the author(s). References herein to third parties are for illustrative purposes and are not an endorsement or recommendation for products or services. No representation, warranty, or undertaking, expressed or implied, is given to the accuracy or completeness of such information. While such sources are believed to be reliable, the author(s) do not assume any responsibility for the accuracy or completeness of such information.

The information and any disclosures provided herein do not constitute a solicitation or offer to purchase any security or other financial product or investment and is not intended as investment, tax, or legal advice. Unless otherwise noted, all information is estimated, unaudited and may be subject to revision without notice. Past results are not indicative of future results.