CoinDesk Indices Seeks Feedback on Changes to the CoinDesk 20 Index Methodology

May 20, 2024: CoinDesk Indices is seeking feedback on proposed changes to the selection, weighting, and intraday calculation of the CoinDesk 20 Index. The changes aim to:

1. **Reduce Single Token Concentration:** Align with regulatory guidelines by imposing stricter capping requirements on constituent weightings.

2. **Update Eligibility Criteria:** Exclude digital assets classified as meme coins or privacy tokens.

3. **Enhance Real-Time Index Calculation:** Reflect current spot prices of the underlying constituents while continuing to provide periodic settlement values based on the current 60-minute volume-weighted average prices (VWAPs).

Overview of Proposed Changes:

Proposal 1: New Constituent Weighting

Current Weighting:

- Constituents are market capitalization weighted
- 30% cap on the largest weighted constituent
- All other constituents capped at 20%
- Excess weight redistributed proportionally

Proposed Weighting:

- Constituents will be market capitalization weighted
- 20% cap on the largest weighted constituent
- All other constituents capped at 10%
- Excess weight redistributed proportionally

To minimize the likelihood of breaching these caps, buffers applied at each reconstitution:

- Largest constituent capped at 18%
- All other constituents capped at 9%
- Excess weight redistributed proportionally

CoinDesk Indices

Proposal 2: Update Excluded Digital Assets

Meme coins and privacy tokens will be added to the list of excluded digital assets.

Current and Proposed Exclusions:

Current Exclusions	Proposed Exclusions	Example Tokens
Stablecoins	Stablecoins	USDC, USDT
Wrapped assets	Wrapped assets	WBTC, WTRX
Staked assets	Staked assets	SETH, RETH
Gas tokens	Gas tokens	GAS, ONG
Pegged assets	Pegged assets	PAXG, XAUT
	Meme coins[1]	DOGE, SHIB
	Privacy tokens[2]	XMR, ZEC

Proposal 3: Intraday Calculation Change

Current Method:

- Volume-weighted average price (VWAP) over a 60-minute lookback period for intraday and closing levels.

Proposed Method:

- Transition to a "spot" reference rate (SRR) more reflective of the current spot price of each constituent.
- Each SRR is a volume-weighted median price using trades (from contributing exchanges) over the prior 30-second lookback period, binned into ten 3-second buckets.
- An exponentially weighted algorithm is applied to the resulting buckets to produce the reference price.
  [See Appendix 1 for detailed calculation]

The SRR maintenance and review will follow the existing reference rate methodology.

---

[1] Classification of meme coins is based on widely held market perception and subject to review by the Index Committee.

[2] Classification of privacy tokens is based on an asset being classified as "Private" under CoinDesk's Digital Asset Classification Standard (DACS). For more information on DACS, see the DACS methodology.

CoinDesk Indices

Intraday Index Level Comparison:

The following chart shows a comparison of intraday CoinDesk 20 Index levels using the current Reference Rate calculation and the proposed SRRs.

CD20 Index on May 10, 2024

Legend: —Using Existing Reference Rates —Using SRRs
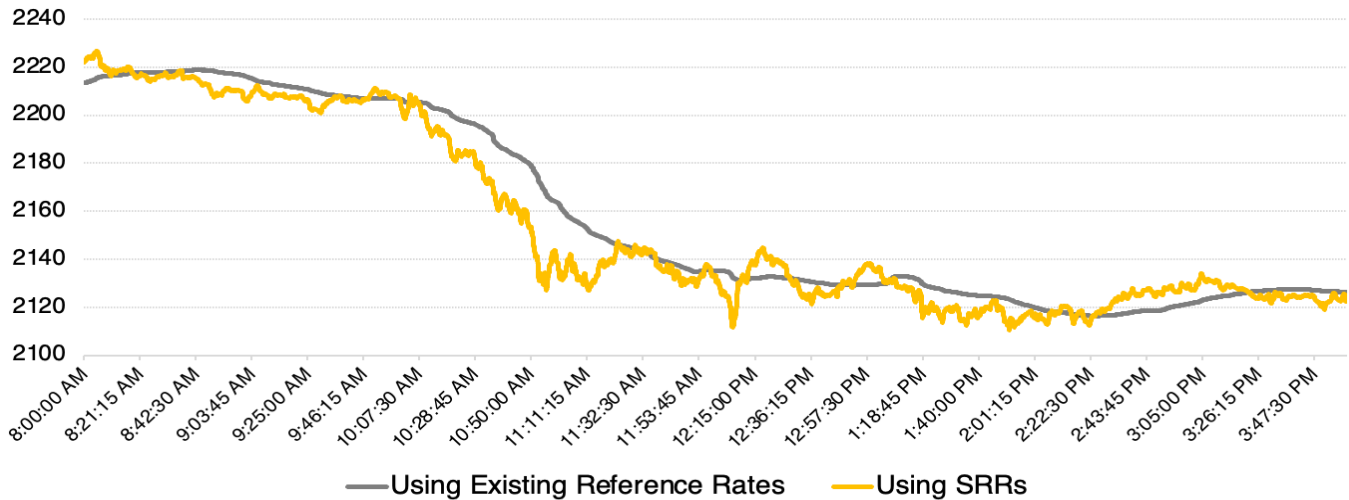
Settlement Calculation:

- An index "settlement" calculation using the existing 60-minute VWAP reference rates will continue to be published.
- To ensure continuity, the reconstitution of the Spot and Settlement indices will use data from the Settlement index. Detailed calculation formulas for each index are provided below.

Calculation Formula for *Spot* Index

$$Spot\ Index_t = \text{Settlement}\ Index_{PR} * (1 + \sum_{i=1}^{N} W_{i,PR} * (\frac{Constituent\ Spot\ Price_{i,t}}{Constituent\ Settlement\ Price_{i,PR}} - 1))$$

where:
$Index_t$ = Index Value at time t
$Index_{PR}$ = Settlement Index Value as of prior reconstitution effective date
$W_{i,PR}$ = Weight of constituent i as of prior reconstitution effective date
N = number of constituents
Constituent Spot Price$_{i,t}$ = Spot Reference Rate for constituent i at time t
Constituent Settlement Price$_{i,PR}$ = Settlement Reference Rate for constituent i as of prior reconstitution effective date

CoinDesk Indices

Calculation Formula for *Settlement* Index

$$Settlement\ Index_t = \text{Settlement } Index_{PR} * (1 + \sum_{i=1}^{N} W_{i,PR} * (\frac{Constituent\ Settlement\ Price_{i,t}}{Constituent\ Settlement\ Price_{i,PR}} - 1))$$

where:
Index$_t$ = Index Value at time t
Index$_{PR}$ = Settlement Index Value as of prior reconstitution effective date
W$_{i,PR}$ = Weight of constituent i as of prior reconstitution effective date
N = number of constituents
Constituent Settlement Price$_{i,t}$ = Settlement Reference Rate for constituent i at time t
Constituent Settlement Price$_{i,PR}$ = Settlement Reference Rate for constituent i as of prior reconstitution effective date

$$Weight_i = \frac{Constituent\ Settlement\ Price_{i,ED} * Index\ Supply_{i,ED}}{\sum_{i=1}^{n} Constituent\ Settlement\ Price_{i,ED} * Index\ Supply_{i,ED}}$$

where:
Weight$_{i,ED,}$ = Weight of constituent i on the Effective Date
Constituent Settlement Price$_{i,ED}$ = Settlement Reference Rate for constituent i on the Effective Date
Index Supply$_{i,ED}$ = Index Supply for constituent i on the Effective Date
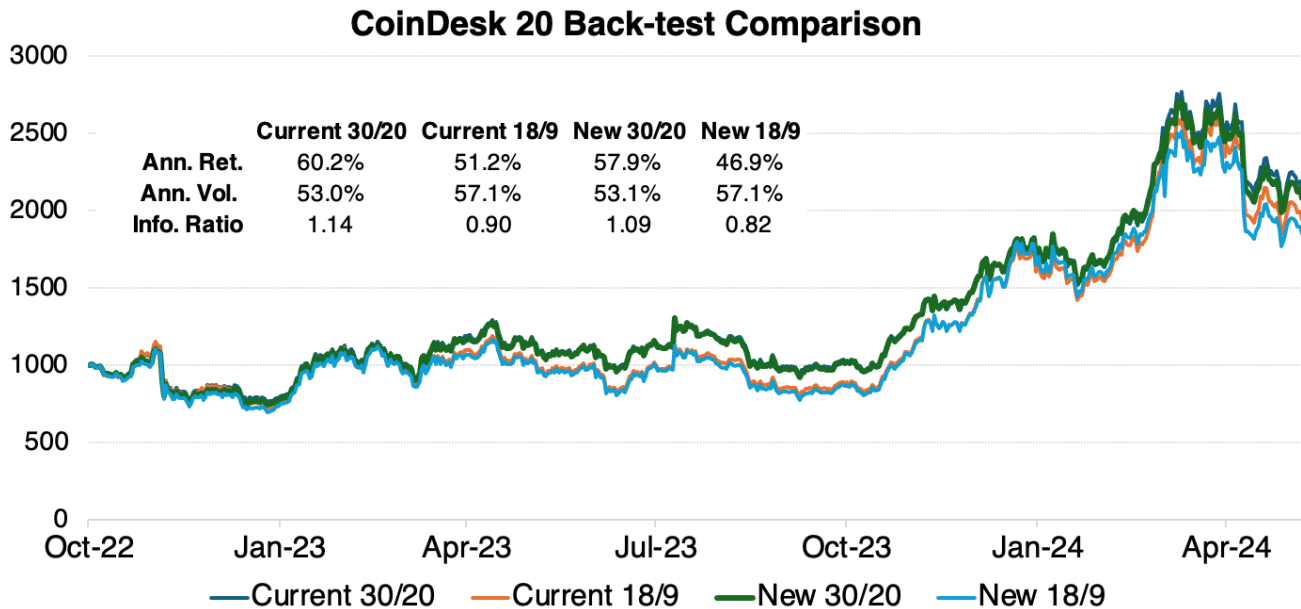*n = number of constituents*

Index Impact

To illustrate the impact of the changes resulting from Proposal 1 and Proposal 2, the April 2024 reconstitution was simulated using the new rules and a full back-test of the index was generated. The below table provides the simulated results of the April 2024 reconstitution. Note, the first set of weights (Header: Current Selection 30/20 Caps) provides the official results of the April 2024 reconstitution.

Symbol	Name	Current Selection 30/20 Caps	Current Selection 18/9 Caps	New Selection 30/20 Caps	New Selection 18/9 Caps
BTC	Bitcoin	30.00%	18.00%	30.00%	18.00%
ETH	Ethereum	20.00%	9.00%	20.00%	9.00%
SOL	Solana	13.67%	9.00%	15.43%	9.00%
XRP	XRP	5.66%	9.00%	6.39%	9.00%
DOGE	Dogecoin	4.14%	7.43%	0.00%	0.00%
ADA	Cardano	3.83%	6.86%	4.32%	8.43%
AVAX	Avalanche	3.44%	6.16%	3.88%	7.57%
SHIB	SHIBA INU	2.90%	5.20%	0.00%	0.00%
DOT	Polkadot	2.23%	4.00%	2.52%	4.91%
LINK	Chainlink	1.89%	3.39%	2.13%	4.17%
MATIC	Polygon	1.68%	3.01%	1.89%	3.69%
UNI	Uniswap	1.56%	2.81%	1.77%	3.45%
BCH	Bitcoin Cash	1.53%	2.73%	1.72%	3.36%
ICP	Internet Computer	1.44%	2.58%	1.63%	3.17%
NEAR	NEAR Protocol	1.33%	2.38%	1.50%	2.93%
APT	Aptos	1.22%	2.18%	1.37%	2.68%
LTC	Litecoin	1.15%	2.06%	1.30%	2.53%
FIL	Filecoin	0.80%	1.43%	0.90%	1.76%
ATOM	Cosmos	0.77%	1.39%	0.87%	1.71%
ETC	Ethereum Classic	0.77%	1.38%	0.87%	1.70%
IMX	Immutable	0.00%	0.00%	0.79%	1.54%
XLM	Stellar	0.00%	0.00%	0.73%	1.42%

CoinDesk Indices

The following chart shows index performance under the various scenarios.

CoinDesk 20 Back-test Comparison

	Current 30/20	Current 18/9	New 30/20	New 18/9
Ann. Ret.	60.2%	51.2%	57.9%	46.9%
Ann. Vol.	53.0%	57.1%	53.1%	57.1%
Info. Ratio	1.14	0.90	1.09	0.82

Legend: Current 30/20, Current 18/9, New 30/20, New 18/9

Timing of Changes

Any changes resulting from this consultation for Proposal 1 and/or Proposal 2 will be implemented at the next reconstitution after results are announced, subject to CDI providing sufficient lead time. The next reconstitution effective date is July 2, 2024.

Changes resulting from Proposal 3 will be implemented with sufficient lead time and will not coincide with a reconstitution effective date.

Consultation Questions:

1. Do you agree with Proposal 1 to modify the constituent weighting methodology and the proposed capping requirements and buffers?
2. Do you agree with Proposal 2 to exclude meme coins and privacy tokens?
3. Do you agree with Proposal 3 to use the Spot Reference Rates to calculate real-time values of the index while continuing to use the current 60-minute VWAP reference rates for end-of-day settlement calculations and reconstitutions?
4. Do you agree with the suggested timing for implementation?

All responses to this consultation should be sent to indexservices@coindesk-indices.com. This consultation will close on June 7, 2024. Once closed, the Index Committee will review the feedback and announce the results within 30 days.

Regards,

CoinDesk Indices

Appendix 1

The Spot Reference Rates (SRRs) are calculated using the following methodology.

The SRR calculation is an exponentially weighted average of time-based intervals of trades from constituent exchanges. The SRR includes trades from the 30-second period leading up to the time t.

1. For all constituent exchange pairs, group all trades within the 30-second window into 10 3-second intervals.
2. For each interval, calculate a Volume-Weighted Median Price (VWMP) based on the below calculation.
3. Calculate a weighted average of VWMP prices of all intervals using exponential weights derived from the distance of each interval from the time t. More recent intervals are given a higher weight than less recent intervals, with the half-life of weights being 3 intervals, or 9 seconds.

If there are no prices available for a given 30-second period, then SRR for that period is the most recently available SRR for that asset.

Volume-Weighted Median Price (VWMP)

For all trades within each 3-second interval, the VWMP is determined using this method:
1. Sort Prices (P) and Volumes (V) in ascending order of prices.
2. Calculate the expanding-window cumulative volume (CV) for the sorted volumes.
3. Determine the price (P_i) of the trade where the volume equals or just exceeds the one-half of CV. P_i is the VWMP for the interval.

Disclaimer