A Material Methodology Change Enhances the NCI™ Index

In the first quarter of 2022, the Nasdaq Crypto Index™ Oversight Committee (CIOC) approved a significant change to the Nasdaq Crypto Index (NCI™) Methodology. The enhancement will more closely align the Index with its stated objectives and more optimally account for emerging conditions within the ever-changing digital asset landscape.

Whereas the previous methodology stipulated the need for coverage by three Core Exchanges and two Core Custodians for all Index constituents, the new methodology requires two Core Exchanges and one Core Custodian.

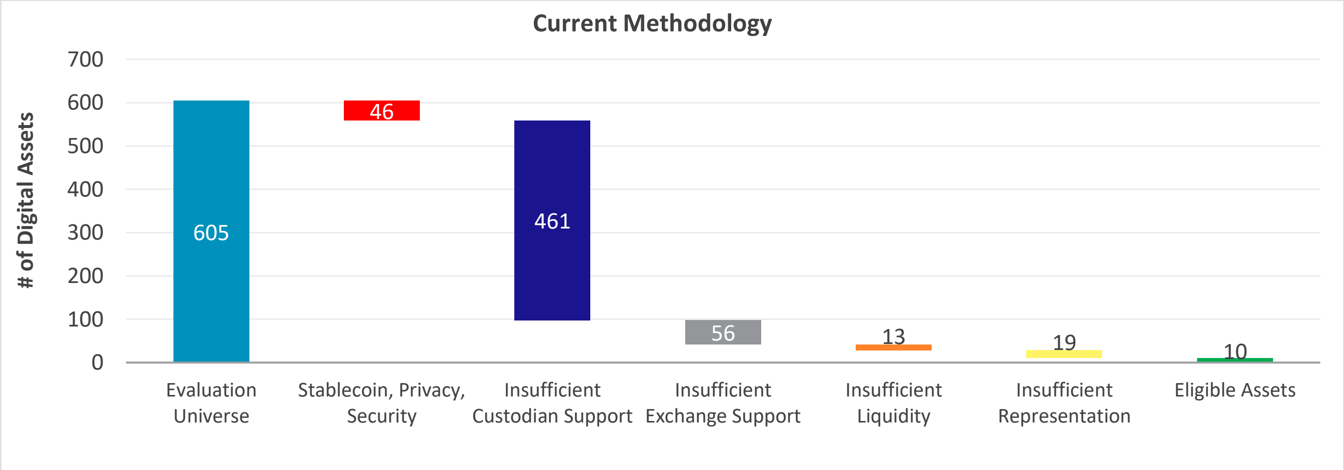
Nasdaq believes there are material benefits to expanding the number of constituents within the NCI. Not only does increasing the number of assets help with Index diversification, but the current list of NCI constituents may also not optimally represent broad crypto market beta given the exclusion of certain prominent, high-market capitalization assets.

Given that one of the NCI's core objectives is to provide institutional grade exposure to a diverse and representative list of prominent digital assets, the CIOC has determined that it would be beneficial to expand the list of Index constituents in a meaningful way. The change will become effective at the time of the June 1, 2022, reconstitution.

As a basis for comparison to the updated Index methodology, the below waterfall graphic illustrates the application of the current index methodology (three core exchanges and two core custodians):

Revised Methodology Overview:

1. Listed on at least 2 Core Exchanges
2. Covered by at least 1 Core Custodian
3. Trading volume no less than 0.5% of the Index asset that has the highest trading volume[1]
4. Free-floating pricing
5. Market capitalization no less than 0.5%of the total of all constituent assets
6. Accepted by Nasdaq's Crypto Index Oversight Committee



After all eligibility criteria are applied, but before CIOC review for regulatory compliance and credibility, ten assets are considered eligible under the current methodology.

Impact Analysis

The CIOC performed a detailed impact assessment before approving the methodological change. The review centered around three primary areas of consideration:

1. *Index Composition*
2. *Custodian Impact*
3. *Exchange Impact*

Each area was considered discretely, and in the context of Index objectives and overall impact:

1. Index Composition

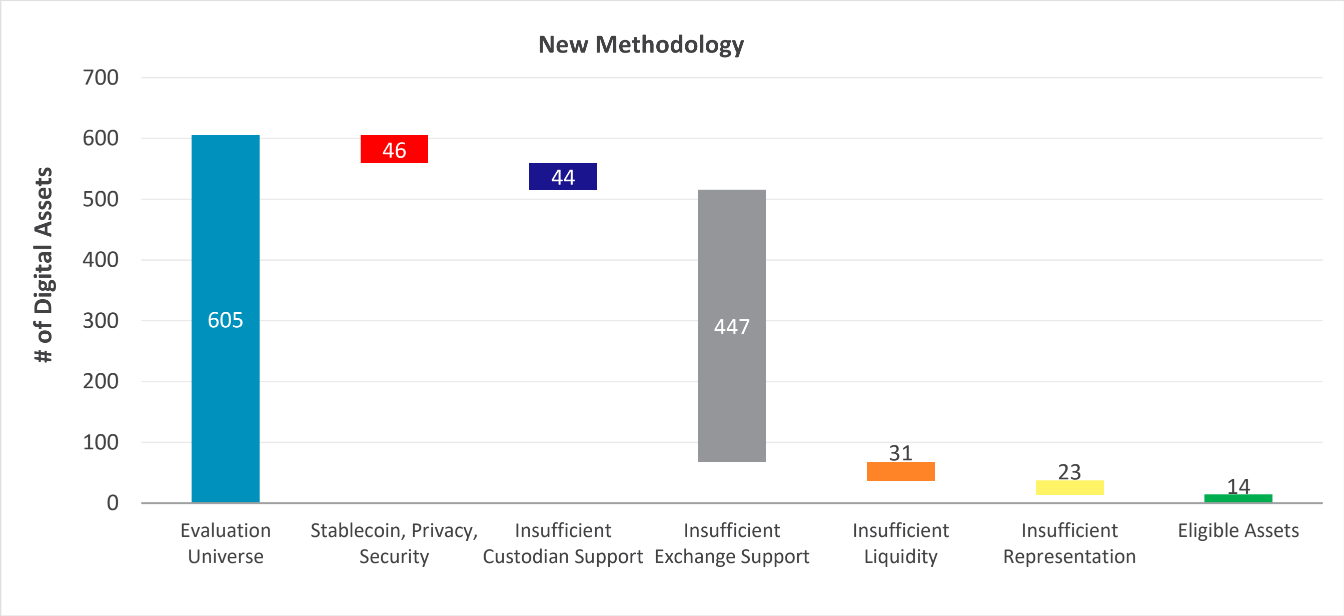
Based on data utilized for the March 1, 2022, reconstitution, the methodological change would allow for the inclusion of three new digital assets, ADA, DOT, and SOL. Each of these assets is well-respected, well-researched, and widely held. Each offers its own version of a fully featured layer one smart contract network.

In contrast, the list of Index constituents that exists without the proposed methodological change only includes one non-use-case-specific smart contract network, Ethereum. Some of the most important blockchain innovations are occurring in this space, however.

> The change therefore allows the NCI to become more reasonably balanced and representative without asserting any unnecessary discretion or otherwise deviating from stated objectives.

While the precise list of new constituents may change prior to the effectiveness of the new methodology given that eligibility is based on dynamic criteria, it is highly likely that the methodology will allow for the inclusion of one or more general purpose smart contract networks.

The below waterfall graphic illustrates the application of the new Index methodology (two Core Exchanges and one Core Custodian):



After all eligibility criteria are applied, but before CIOC review for regulatory compliance and credibility, 14 assets are considered eligible under the new methodology.

2. Custodian Impact

The lowered Custodian requirement (from two to one) has a significant impact on the universe of potentially Eligible Assets and opens the door to a measured increase in Index constituents. Without the relaxed Custodian requirement, the reduction in required Exchanges would have no impact on the Index; it is therefore a critical component of the methodology update.

The impact that the lowered Custodian requirement would have on Index governance and data quality is minimal. While Funds that track the Index are required to utilize Core Custodians exclusively, there is no stipulation that assets must be diversified across multiple Custodians. It is more likely that asset managers (i.e., Hashdex) elect to diversify custody across multiple providers based on their own considerations that may include due diligence ratings, insurance coverage, and price. The specific allocation among Core Custodians is not prescribed by the NCI Methodology and therefore wouldn't be expected to change as a result of the proposed change. Furthermore, since the Index's inception, there have been meaningful changes for certain constituent assets whereby custody has become more centralized. Some of the assets with higher market capitalizations have routinely trended towards more centralized custody, in practice. The methodological change thus better accounts for this phenomenon.

3. Exchange Impact

Although assets with only two Core Exchanges will undergo streamlined pricing calculation processes given that the current procedure for abnormal adjustments will not apply, the overall impact to the NCI is minimal. The current process involves the calculation of the standard deviation of prices, volumes, and price volatility, but such calculations require data from more than two Exchanges. In cases where only two Exchanges provide data to the Calculation Agent, the current methodology states that relative Exchange volume will be calculated with respect to trailing 30-day volumes without adjustment for any abnormalities.

While the lack of penalty factors theoretically lowers the level of manipulation prevention protection, given the scenario only applies to two (potential) Index constituents at this time (DOT and SOL), the overall impact is low. Although the relaxed Exchange requirement is likely to impact additional assets in the future, it is also likely that assets that continue to pass Liquidity and Asset

Representation tests will eventually become covered by a growing list of Core Exchanges (and assets that don't pass both tests are not eligible). In addition, if a given amount of trading volume for any constituent asset is allocated across two Core Exchanges instead of three, the more centralized liquidity that would result from the use of only two venues implies more robust pricing given the lower overall spreads that result from deeper markets at each venue.

In terms of the inability to apply penalty factors, the impact of abnormal pricing on Index constituents that are covered by only two Exchanges is likely to be immaterial with respect to the calculation of NCI itself given the relatively low allocation. For example, based on data utilized for the March 1, 2022, reconstitution, DOT and SOL would represent roughly 7% of the Index, so pricing abnormalities would need to be extremely pronounced in order to have a noticeable impact on the NCI overall. Based on a review of historical pricing differentials across Core Exchanges, it is unlikely that any deviations would portend a material impact to the Index itself.

New Index Additions

Given the dynamic nature of the NCI, Nasdaq cannot yet specify precisely which assets will be included in the June 1, 2022, reconstitution. Nasdaq will publish a definitive list of Index constituents once the list has been finalized in accordance with standard policies. Given the potentially transformational impact of the change, Nasdaq anticipates publishing information about each new asset so that interested parties can better understand the nature of each asset and the impact to the Index overall.

For more information, visit the NCI homepage.

Footnotes:

[1] Trading volume is based on median daily trading volume in the USD pair conducted across all core exchanges. Eligible Assets must have no less than 0.5% of the trading volume of the cryptocurrency asset that has the highest median daily trading volume in the Index.