Index Methodology

Bloomberg Galaxy DeFi Index (DEFI)

Bloomberg

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INTRODUCTION

The Bloomberg Galaxy DeFi Index ("Index") is a market-cap-weighted digital assets benchmark designed to measure the performance of the largest Decentralized Finance ("DeFi") assets ("Constituents") that can be institutionally traded and custodied with US-based institutions. The index is owned and administered by Bloomberg Index Services Limited ("BISL" or the "Administrator") and is co-branded with Galaxy Digital Capital Management LP ("Galaxy"). The Index can be accessed on the Bloomberg Terminal® via ticker DEFI Index <GO>.

BISL administers the Index according to four guiding principles:

1. Data Integrity	Digital Asset Research (DAR) is the source of daily pricing, classification, and market value. DAR maintains high quality data with processes in place to detect manipulation. Price sources are subjected to a rigorous vetting process and multiple quality control tests to avoid exchanges involved in market manipulation. (See DAR Vetting and Pricing methodology)
2. Diversified	No single constituent weight can exceed 40% nor fall below 1% of the Market Capitalization of the Index.
3. Representative	The Index aims to provide exposure to the broader DeFi market.
4. Continuity	The Index aims to be responsive to the dynamic nature of the underlying market while maintaining an anchor to its core stated purpose.

SELECTION OF CONSTITUENTS

Eligibility is based on all the following criteria being met:

1. Classified according to DAR's taxonomy of DeFi assets; DAR applies a bottom-up approach to the space, identifying specific functionality for each asset, and aggregating under the DeFi umbrella protocols delivering intermediation services such as market making or lending thus providing a decentralized alternative to traditional financial offerings.

2. Institutional trading offered by US-based institutions.

3. Custody services offered by US-based institutions.

4. Ability to source pricing for the asset from a minimum of 3 Vetted Sources.

5. Not deemed a security by the US Security and Exchange Commission.

WEIGHTING SCHEME

- Constituents are all initially weighted by their Market Capitalization based on the Circulating Supply. Weight caps and floors are then applied to the Constituents to promote diversification and avoid overweighting and underweighting. The maximum weight for any Constituent is 40% (Cap) of the Index's float-adjusted Market Capitalization and the minimum 1% (Floor).
- If a Constituent weight exceeds the Cap, it must be lowered back to the level of the Cap and the excess weight is then redistributed across all other Constituents in proportion to their weight.
- Following the capping, Constituents contributing less than the Floor must be rounded up, with the increase subtracted from the balance of all other Constituents proportional to their weights.
- This process is repeated until none of the Constituents have weights exceeding the Cap or fall short of the Floor.

Weights are calculated using end-of-day prices from Digital Asset Research four Index Business Days prior to the end of the month. Once the Cap and Floor weights are applied, any subsequent price changes will move the weights away from their Cap or Floor.

ROUNDING OF INPUT DATA

The following rounding protocols are used for the Index calculation:

- Index divisor is rounded to four decimal places

- Weighting Cap/Floor factors are rounded to twelve decimal places

END-OF-DAY INDEX LEVEL

The official end-of-day Index level is calculated based on the time-weighted average pricing of the underlying assets from 15:30:00 ET to 16:00:00 ET and is disseminated promptly thereafter, using a two decimal place rounding.

RECONSTITUTION AND REBALANCE SCHEDULE

The Index is reconstituted (changing of Constituents) and rebalanced (changing of Constituent weights) monthly. Index weights and Constituents are calculated and announced four Index Business Days prior to end of month ("Rebalance Announcement Day") and implemented on the first Index Business Day of the following month ("Rebalance Implementation Day"). The Constituents meeting the eligibility criterion for three consecutive monthly rebalances are added and the ones falling short for three consecutive monthly rebalances are removed. No Constituents will be added or removed from the Index intra-month (see "Stress Events" section for exceptions).

INDEX CALCULATION

The Index level is calculated using the following formula:

$$Index_t = \frac{\sum_{i=1}^{x} P_{i,t} \times CS_{i,m} \times CF_{i,m}}{D}$$

Where

Index$_t$ = Index level on day t

$P_{i,t}$ = end of day price for Constituent i on day t, expressed in Constituent per index currency (e.g. Uniswap in USD)

$CS_{i,m}$ = Circulating Supply of Constituent i in month m of the current year

$CF_{i,m}$ = Cap/Floor factor for a Constituent i in month m of the current year

D = Index Divisor

x = Number of constituents

The base level for the Index is set at 1000 for Dec 31, 2020

Cap/Floor factor is calculated as:

$$CF_{i,m} = \frac{W_{i,c}}{W_{i,i}}$$

Where

$W_{i,c}$ = Capped/Floor Weight on rebalance day r

$W_{i,i}$ = Initial Weight on rebalance day r

The Initial Divisor is calculated as:

$$D_0 = \frac{\sum_{i=1}^{x} P_{i,0} \times CS_{i,0} \times CF_{i,0}}{1000}$$

Where

D_0 = Divisor on Dec 31, 2020

$P_{i,0}$ = price for Constituent i on Dec 31, 2020, expressed in Constituent per Index

$CS_{i,0}$ = Circulating Supply of Constituent i on Dec 31, 2020

$CF_{i,0}$ = Cap/Floor factor for Constituent i on Dec 31, 2020

x = Number of constituents

DIVISOR ADJUSTMENTS

Changes in Circulating Supply, or additions or deletions of Constituents should not impact the level of the Index on the day they occur. In a scenario where an Index closes at the level of 1000 and a Constituent ends up being replaced by another Constituent after market close, the opening level of the index remains unchanged, at 1000. In this scenario, an Index divisor adjustment is required. Any changes to a Constituent that alters the total market value of the Index as prices remain constant requires a divisor adjustment. The Index divisor is simply a scaled representation of the adjusted Market Capitalization of the Index.

$$D_{new} = D_{old} * \frac{\sum_{i=1}^{x} P_{i,t} \times CS_{i,m} \times CF_{i,m}}{\sum_{i=1}^{n} P_{i,t} \times CS_{i,r} \times CF_{i,r}}$$

Where

$P_{i,t}$ = price for Constituent i on day t, expressed in Constituent per Index currency

$CS_{i,m}$ = Circulating Supply of Constituent i in month m of the current year

$CF_{i,m}$ = Cap/Floor factor for a Constituent i in month m of the current year

$CS_{i,r}$ = Circulating Supply of Constituent i in month m-1 of the current year if m>1, month 12 of the prior year otherwise

$CF_{i,r}$ = Cap/Floor factor for a Constituent i in month m-1 of the current year if m>1, month 12 of the prior year otherwise

D_{old} = Old Index Divisor in month m-1 of current year if m>1, month 12 of the prior year otherwise

x = New number of Constituents in month m

n = Old number of Constituents in month m – 1 of current year if m>1, month 12 of the prior year otherwise

The following scenarios may trigger a divisor adjustment. Given that the digital assets space is still a developing asset class, we suspect there may be other scenarios, aside from the ones listed directly below, that could also lead to an adjustment:

1. Hard Fork - Digital asset forks are defined as changes in the underlying protocol of a digital asset network or as the situations that occur "when two or more blocks have the same block height". A fork impacts the validity of the rules. Forks are typically conducted in order to add new features to a Blockchain, unwind the impact of a hack or fix catastrophic bugs. The adjustment factor for a Hard Fork is to be derived based on the analysis of the changes to the Blockchain and the value of the original and post-fork digital asset.
2. Change in pricing calculation – when a change in pricing methodology occurs, including splits or reverse splits, a divisor adjustment must be used to enforce the continuity of the index levels (i.e. prevent a gap in index levels on the day of the change).

DATA PROVIDERS AND DATA EXTRAPOLATION

The Index is rules-based, and as such its construction is designed to produce Index Levels reliability and to remove the need for exercising discretion. The Index production itself does not rely on any form of interpolation or extrapolation of the input data.   As shown below (e.g., see "Stress Events"), the Index uses level carry-forwards rather than interpolation or extrapolation; however, the Administrator may update this Methodology and internal procedures when necessary.

In addition, the Index Administrator seeks to avoid contributions of input data that may be subject to the discretion of the source of such data and instead seeks to use input data that is readily available and/or distributed for a number of non-index or benchmark creation purposes. Accordingly, the Indices require no 'contributors' to produce and no codes of conduct with any such sources are required.

DATA SOURCING CHANGES & RULE EXCEPTIONS

The reconstruction date for January 2021 was set as 12/31/2020, which is the first date on which data was available.

INDEX PUBLICATION DAYS

The Index is published on New York Stock Exchange trading days[1], also referred to as Index Business Days.

STRESS EVENTS

If pricing is unavailable due to unforeseen events, the Index will be calculated using the last available price. If pricing is unavailable for more than three consecutive Index Business Days, the matter will be escalated to the PROC, as further discussed below, to determine whether to remove the Constituent from the Index. Any such removal will be subject to PROC review.

LIMITATIONS OF THE INDEX

Though the Indices are designed to be representative of the markets they measure or otherwise align with their stated objective, they may not be representative in every case or achieve their stated objective in all instances. They are designed and calculated strictly to follow the rules of this Methodology, and any Index Level or other output is limited in its usefulness to such design and calculation.

Markets can be volatile, including those market interests which the Indices intend to measure or upon which the Indices are dependent in order to achieve their stated objective. For example, illiquidity can have an impact on the quality or amount of data available to the Index Administrator for calculation and may cause the Indices to produce unpredictable or unanticipated results.

In addition, market trends and changes to market structure may render the objective of the Index unachievable or to become impractical to replicate by investors

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[1] https://www.nyse.com/markets/hours-calendars

Specifically, the Index measures the performance of the largest DeFi assets priced on the Vetted Exchanges. The Index is therefore to the volatility and illiquidity of certain digital assets. The sector has tended to be more volatile over both the long-term and the short-term compared to others with index presence including, but not limited to, fixed income and equities. In addition, prices are gathered through third-party sources for the purpose of establishing index Constituent valuations. This is an additional operational risk as the quality of Constituent valuation is predicated upon receiving accurate or timely pricing.

In addition, digital assets' Pricing Sources face heightened risks relative to traditional stock and commodity exchanges, including but not limited to, cyber-attacks, errors resulting from the lack of standards and naming convention for symbols, and other risks stemming from a complex technological and legal environments (causing changes in fee structure, blocking of funds withdrawal, etc.). Suspension or disruption of market trading in digital assets may adversely affect the value of the Index.

BENCHMARK OVERSIGHT AND GOVERNANCE

Benchmark Governance, Audit and Review Structure

BISL uses two primary committees to provide overall governance and effective oversight of its benchmark administration activities:

> ➢ The Product, Risk & Operations Committee ("**PROC**") provides direct governance and is responsible for the first line of controls over the creation, design, production and dissemination of benchmark indices, strategy indices and fixings administered by BISL, including the Indices. [The PROC is composed of Bloomberg personnel with significant experience or relevant expertise in relation to financial benchmarks. Meetings are attended by Bloomberg Legal & Compliance personnel. Nominations and removals are subject to review by the BOC, discussed below.] [2]

> ➢ The oversight function is provided by Bloomberg's Benchmark Oversight Committee ("**BOC**"). The BOC is independent of the PROC and is responsible for reviewing and challenging the activities carried out by the PROC. In carrying out its oversight duties, the BOC receives reports of management information both from the PROC as well as Bloomberg Legal & Compliance members engaged in second level controls.

On a quarterly basis, the PROC reports to the BOC on governance matters, including but not limited to client complaints, the launch of new benchmarks, operational incidents (including errors & restatements), major announcements and material changes concerning the benchmarks, the results of any reviews of the benchmarks (internal or external) and material stakeholder engagements.

Internal and External Reviews
BISL's Index administration is also subject to Bloomberg's Compliance function which periodically reviews various aspects of its businesses in order to determine whether it is adhering to applicable policies and procedures, and assess whether applicable controls are functioning properly. In addition, Bloomberg may from time to time appoint an independent external auditor with appropriate experience and capability to review adherence to benchmark

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[2] Note that administrators of significant (but not critical) benchmarks may opt not to disclose (i) re the roles performed by any persons involved in reviewing and approving the methodology and (ii) a description of the procedure for the nomination and removal of the persons involved in reviewing and approving the methodology.

regulation. The frequency of such external reviews will depend on the size and complexity of the operations and the breadth and depth of the Index use by stakeholders.

INDEX AND DATA REVIEWS

The Administrator will review the Index (both the rules of construction and data inputs) on a periodic basis, not less frequently than annually, to determine whether they continue to reasonably measure the intended underlying market interest, the economic reality or otherwise align with their stated objective. More frequent reviews may result from extreme market events and/or material changes to the applicable underlying market interests.

Criteria for data inputs are defined by Digital Asset Research and subject to change based on market conditions. Three vetted exchanges must be available currently to yield acceptable pricing; and in the absence of the latter the latest available price may be used instead.

Other than as set forth in this Methodology, there are no minimum liquidity requirements for Index constituents and/or minimum requirements or standards for the quantity or quality of the input data.

The review will be conducted by product managers of the Indices in connection with the periodic rebalancing of the Indices or as otherwise appropriate.

Any resulting change to the Methodology deemed to be material (discussed below) will be subject to the review of the PROC under the oversight of the BOC, each of which committees shall be provided all relevant information and materials it requests relating to the change. Details regarding the PROC and BOC are described above.

Material changes will be reflected and tracked in updated versions of this Methodology.

BISL's Index administration is also subject to Bloomberg's Compliance function which periodically reviews various aspects of its businesses in order to determine whether it is adhering to applicable policies and procedures, and assess whether applicable controls are functioning properly.

Material changes related to the Indices will be made available in advance to affected stakeholders whose input will be solicited. The stakeholder engagement will set forth the rationale for any proposed changes as well as the timeframe and process for responses. The Administrator will endeavor to provide at least two weeks for review prior to any material change going into effect. In the event of exigent market circumstances, this period may be shorter. Subject to requests for confidentiality, stakeholder feedback and the Administrator's responses will be made accessible upon request.

In determining whether a change to an Index is material, the following factors shall be taken into account:

- The economic and financial impact of the change;
- Whether the change affects the original purpose of the Index; and/or
- Whether the change is consistent with the overall objective of the Index and the underlying market interest it seeks to measure

In addition to material changes, BISL may from time to time terminate one or more Indices ("Discontinued Indices"), whether due to changes in market structure, a lack of requisite data, insufficient usage, or for other regulatory or practical concerns. The process for terminating such Discontinued Indices is as follows:

The PROC will review proposed terminations, taking into account the reasons for termination, the impact on users (if any), the availability of alternative products and other such factors. If termination is approved, users will be provided as much prior notice as is reasonable under the circumstances, typically 90 days. In the event there is little or no known usage identified, the Discontinued Indices may be terminated with less (or no) notice, as

applicable. In the event the Discontinued Indices are licensed for use as the basis of an ETF or other widely-available financial product or is otherwise determined by BISL to be an important benchmark without reasonable substitutes, the notice period may be extended, as warranted. Any advance notice period is subject to BISL being reasonably able to continue administering and calculating such benchmark during such period (for example, BISL has access to requisite data on commercially reasonable terms, is not subject to any litigation or other claims, has adequate internal resources and capabilities, etc.). Terminations and associated user engagement decisions made by the PROC are subject to review by BISL's oversight function, the BOC.

EXPERT JUDGMENT

The Indices are rules-based, and their construction is designed to consistently produce values without the exercise of expert judgment or discretion. Nevertheless, BISL may use expert judgment or discretion with regards to the following:

- Index restatements
- Extraordinary circumstances during a market emergency
- Data interruptions, issues, and closures

When expert judgment or discretion is required, BISL undertakes to be consistent in its application, with recourse to written procedures outlined in the methodology of the Indices and internal procedures manuals. In certain circumstances exercises of expert judgment or discretion are reviewed by senior members of BISL management and Bloomberg Compliance teams, and are reported to the Product, Risk & Operations Committee (PROC), BISL's governance committee, which operates under the supervision of BISL's oversight function, the Benchmark Oversight Committee (BOC). BISL also maintains and enforces a code of ethics to prevent conflicts of interest from inappropriately influencing index construction, production, and distribution, including the use of expert judgment or discretion.

RESTATEMENT POLICY

BISL makes every effort to maintain the accuracy of its indices' calculation. However, to the extent a material error in Index values is uncovered following its publication and dissemination; a notification will be sent to Index clients alerting them of such error and the expected date of a revised publication, if warranted. BISL considers the following factors when contemplating a restatement. Not all conditions need to be present to warrant a restatement, and certain factors may be more determinative than others depending on the circumstances of the given error.

1. The relative importance of the data field impacted by the error
2. When the error occurred and when it was discovered
3. The number of indices impacted
4. Whether the impacted indices are linked to tradable products
5. The magnitude of the error
6. The burden of restatement on client re-processing relative to the impact of the error
7. The impact of the restatement on analytical tools

GLOSSARY OF TERMS

Administrator: a natural or legal person that has control over the provision of a benchmark.

Blockchain: a digitized, decentralized ledger of all digital asset transactions.

Bloomberg Index Services Limited or BISL: the Index owner and administrator.

Bloomberg: Bloomberg L.P. and its affiliates, including BISL.

BOC: Benchmark Oversight Committee.

Cap: The maximum weight for any Constituent of the Index's float-adjusted Market Capitalization at rebalancing.

Circulating Supply: Circulating Supply, or available supply, is the best approximation of the number of coins that are circulating in the market and are available for trade.

Constituent: Digital asset that is a member of the Index.

DeFi: Decentralized finance is a set of blockchain-based solutions offering an alternative to the traditional approach to financial services, at the core suppressing the requirement for a centralized intermediary.

Floor: The minimum weight for any Constituent of the Index's float-adjusted Market Capitalization at rebalancing.

Hard Fork: A hard fork occurs when a Blockchain protocol is radically changed, such that it becomes incompatible with older versions. In effect, participants taking part in transactions on the old Blockchain must upgrade to the new one in order to continue validating transactions in the new Blockchain. However, the participants who do not upgrade may continue to support and validate transactions on the old Blockchain protocol separately. The result: a Blockchain splits into two - hence the name "hard fork". If there are nodes permanently supporting the new chain, then the two chains will co-exist. Users that once held digital assets on an older Blockchain before the protocol change at a pre-specified Blockchain length will now also hold an amount of new coins on the altered Blockchain. This new digital asset is essentially being derived from an older digital asset as well as its associated Blockchain's transaction history. As per the Index methodology, hard forks are considered to be new Constituents.

Index: Bloomberg Galaxy DeFi Index

Index Business Day: Days on which the Index is published (New York Stock Exchange trading days).

Index Level: The numerical value of the Index

Index Weight: The percent weight of an individual Constituent in the Index. The sum of all Index weights must add to 100%.

Market Capitalization: Market capitalization, measured in USD, is calculated as the product of each digital asset's Circulating Supply and price.

Pricing Sources: Pricing Sources are trading platforms that facilitate the buying and selling of digital assets. Many Pricing Sources refer to themselves as "exchanges," which can deceivingly lead to the perception that they are regulated or meet the regulatory standards of a national securities exchange. Many of the U.S.-based digital asset trading platforms have elected to be state-regulated "money-transmission services". Traditionally, from an oversight perspective, these predominantly state-regulated payment services have not been subject to direct oversight by the SEC nor the CFTC.

PROC: Product, Risk & Operations Committee.

Rebalance Announcement Day: Four Index Business Days prior to the end of every month wherein Constituents that will represent the Index in the following month are determined and announced.

Rebalance Implementation Day: First Index Business Day of every month wherein the results announced on the Rebalance Announcement Day are implemented.

Take the next step.

For additional information, press the <HELP> key twice on the Bloomberg Terminal®.

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