

dxFeed Digital Asset Reference Indices

Index Methodology

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February 2025

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1. Summary

The dxFeed Digital Asset Reference Indices (“Indices” or “Index”) are designed to reflect the performance of digital asset cryptocurrencies in US Dollars constructed by a manipulation resistant methodology with sourced transactional data from centralized exchanges.

The dxFeed Digital Asset Reference Indices are intended to measure the economic reality of the underlying base asset. Each Index serves as an independent, robust, and transparent pricing source. This is accomplished by utilizing transactional input data from markets and eligible constituent exchanges that promote efficient markets for market participants.

1.1 Supporting Benchmark Statement Documentation

Please refer to the [dxFeed Index Governance Policies and IOSCO Compliance](#) document in conjunction with this Index Methodology.

2. Data Source

2.1 Data Provider

dxFeed sources data from eligible constituent exchanges that are approved by the dxFeed Index Policy Committee (“IPC”) to serve as a pricing source for the dxFeed Digital Asset Reference Indices. The Index calculation is based on executed trades and observable transactions from constituent exchanges to accurately and reliably reflect the fair market value of the underlying asset.

The Indices do not use contributed input data.

2.2 Constituent Exchanges

All eligible exchanges are subject to review and approval by the dxFeed IPC. The list of constituent exchanges that are included in the Indices are: Bitstamp and Gemini.

New exchanges that meet the eligibility requirements will be considered for inclusion into the list of constituent exchanges and must be approved by the dxFeed IPC.

3. Index Methodology

3.1 Index Computation

The index value y_t at time t is computed as follows:

1. Let $W > 0$ be a fixed-time calculation window.
2. Consider a time interval $I = [t - W, t)$.
3. Partition the time interval I into N equal-sized disjunctive subintervals:
$$P(I, N) = \{[t_p, t_{p+1}) \mid p \in 1 : N, t_{p+1} - t_p = W/N, t_1 = t - W, t_{N+1} = t\}.$$
4. Consider a set of M exchanges. For each subinterval $[t_p, t_{p+1}) \in P(I, N)$, compute the Volume Weighted Average Price $VWAP_e^p$ of prices from exchange $e \in 1 : M, p \in 1 : N$.
5. Find the median VWAP for each subinterval over all exchanges and then find the mean resulting medians:

$$y_t = \frac{1}{N} \sum_{p=1}^N \text{median} \{VWAP_e^p \mid e \in 1 : M\}$$

3.2 Index Contingency Rules

The dxFeed Digital Asset Reference Indices are crafted to ensure publication availability at any given time through a methodology that guarantees rate availability. In cases where the data sufficiency criteria, described below, are not fulfilled within a designated Calculation Window, a Fallback mechanism will be implemented.

3.2.1 Data Sufficiency Requirement for Fallback Activation

Within a Calculation Window, if either of the following thresholds is not met, the fallback mechanism is initiated:

- At least 1 exchange with trading activity, or
- Minimum transaction count for the applicable Index.

3.2.2 Fallback Provisions

The methodology's fallback mechanism operates as an iterative and recursive procedure. If the data sufficiency criteria are not met by the conclusion of a Calculation Window, the window will be extended by one partition until the sufficiency threshold is reached. If the new partition resolves the sufficiency requirement, the recursive process ceases, and the Reference Index is published. The fallback Calculation Window can extend up to two days prior to ensure data adequacy is achieved.

3.3 Index Precision

The dxFeed Digital Asset Reference Indices are calculated with 10 decimal places of precision and is published with 4 decimal places.

3.4 Index Calculation Frequency

The dxFeed Digital Asset Reference Indices are calculated hourly from 9:00 am Eastern Time to 4:00 pm Eastern Time Monday through Friday. The Index is published on dxFeed's website (indexit.dxfed.com) and is distributed to a variety of global data vendors.

4. Index Governance

4.1 Index Administrator

dxFeed is the benchmark administrator of the index ("Administrator"). The Administrator is responsible for the decisions regarding the index methodology and rules, as well as the daily management of the index.

The Indices are classified as non-significant benchmarks.

4.2 Index Committees

dxFeed has established two committees to provide overall oversight and governance for the Indices.

Governance functions are managed by the following committees:

- Index Oversight Committee (IOC)
- Index Policy Committee (IPC)

Index Oversight Committee

The IOC provides independent oversight of all aspects of the governance of benchmark administration. The IOC has no authority to make specific index content decisions, which are the independent editorial responsibility of the IPC. The key responsibilities of the IOC include, but are not limited to, the following:

- Oversee the other governance committees to ensure their respective responsibilities are adequately performed.
- Make recommendations to relevant stakeholders based on reports and information provided by functional areas and other governance committees.
- Report to the national competent authority, as required by law.
- The IOC may seek information regarding any aspect of benchmark administration and is authorized to seek detailed information and presentations on relevant topics from any employee.

- The IOC may request internal or commission external audits of relevant benchmark administration processes.
- The IOC is comprised of dxFeed representative members from areas not directly involved in benchmark administration and non-voting members with backgrounds and experience in research and data operations that can provide specific market knowledge and operational expertise.
- Membership shall be revoked for the following reasons:
 - The member notifies the committee of his or her decision to resign from the IOC.
 - The member is no longer an employee of the company or his or her role changes significantly.
 - The member does not fulfill or is not capable of fulfilling his or her responsibilities on the committee, including attendance at meetings.
- Meetings are to be held at least quarterly and as needed and may be attended in person or by teleconference.
- The chairperson and at least one other voting member of the committee must be present at any meeting. Each voting member has one vote.
- In instances when an IOC decision is required and scheduling an ad-hoc IOC meeting is not possible, such decision may be reached via email communication.
- Decisions will be taken by simple majority of the voting members present at a meeting or voting by email.
- Members must disclose any potential conflict of interest before each agenda item and recuse themselves from any discussions where they have a conflict of interest. This will be recorded in the minutes.
- The committee may ask any personnel to attend or to present at the meeting. These attendees will not have voting rights.
- The agendas for all the IOC meetings contain the date, time, expected attendees and topics. Topics presented at the IOC may have supporting documents.
- Generally, the minutes of all IOC meetings contain the date, time, attendees, topics discussed, and decisions made.

Index Policy Committee

The IPC presides over methodology developments and changes as well as market classification decisions. These terms of reference are reviewed and approved by the relevant IOC annually.

The key responsibilities of the IPC include, but are not limited to, the following:

- Review and approve new methodologies or methodology changes.
- Make decisions on market reclassifications for the indexes.
- Make decisions on index terminations.
- Review summary of regular equity index rebalancing results.
- Review and approve complex or exceptional corporate event treatment that cannot be addressed by current methodologies.
- Review and approve the Index Policies document.
- The IPC is currently composed of members comprised of senior representatives of dxFeed's Index Quant and Index Management team.
- Changes in membership are proposed by the IPC and approved by the CEO.
- The IPC meets on an ad-hoc basis as required.
- IPC meetings require the attendance of at least three members.
- No substitutes and no delegates are accepted.
- The agendas for all IPC meetings contain the date, time, expected attendees and topics. All topics presented at the IPC generally have supporting documents.
- Generally, the minutes of all IPC meetings contain the date, time, attendees, topics discussed, and decisions made.
- In instances when an IPC decision is required, while scheduling an IPC meeting is not possible within the required timeframe, such decision may be reached via email communication, provided at least three members of the IPC explicitly approve a proposal. In case of exceptionally time critical, typically market driven topics, consent of two IPC members may be sufficient.

4.3 Expert Judgement

The Administrator does not utilize expert judgement in the daily maintenance of the Indices. The Indices are based on transparent methodology rules and procedures to minimize the exercise of discretion and expert judgement.

The Indices are calculated from input data from observable transactions. In the event of extraordinary circumstances in the case of errors and index restatement, erroneous data, delayed or missing data, or corporate actions (delisting, hard forks, and airdrops), the Administrator may exercise expert judgement in accordance to written procedures, policies and processes overseen by the IOC.

4.4 Recalculations and Restatements

The dxFeed Digital Asset Reference Indices are subject to recalculations and restatements of index values. In the case of a material error, the index will be recalculated, and a notice communicated with

subscribed clients via email. An error is considered material on the basis of the accuracy, size, date, consistency, and impact reflecting the economic reality of the Index.

The Administrator will recalculate and restate the impacted value as soon as possible post publication.

4.5 Index Methodology Changes

The dxFeed Digital Asset Reference Indices methodology is reviewed internally on an annual basis. Changes to the methodology are subject to review and approval by the IPC. Announcements regarding substantive changes or termination to the Index will be made publicly available prior to the effective date of the change.

5. Disclaimer

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6. dxFeed Digital Asset Reference Indices

6.1 dxFeed Bitcoin Reference Index

The dxFeed Bitcoin Reference Index represents the price of Bitcoin in U.S. dollars by aggregating trade data from two spot exchanges, Bitstamp and Gemini, during a 10-minute Calculation Window prior to each hour from 9 a.m. ET to 4 p.m. ET on business days. Each Calculation Window is divided into 20 thirty-second time intervals or partitions. All partitions are equally weighted. For each partition, dxFeed will calculate the volume weighted average price (“VWAP”) for each spot exchange. Further, for each partition, dxFeed will calculate the median of the VWAPs for each exchange. The dxFeed Bitcoin Reference Index is then determined by averaging each partition’s median VWAP value.

As described in Section 3.2.1, if there is not a minimum transaction count of at least 50 transactions across the spot exchanges during the Calculation Window, the fallback mechanism is initiated.

Index Name	dxFeed Bitcoin Reference Index
Index Ticker	DXBTC:MIAXDX
Refinitiv Instrument Code (RIC)	.DXBTC
Bloomberg Ticker	DXBTC
Index Base Date	06/03/2024
Index Launch Date	06/03/2024
Index Base Value	69664.6771
Index Currency	USD

Calculation Frequency	VWAP Calculation Window	VWAP Partition Length	Eligible Constituent Exchanges
Hourly, 9:00 am Eastern Time to 4:00 pm Eastern Time (Monday through Friday)	10 minutes	30 Seconds	Bitstamp Gemini

7. Version History

Date	Version	Log of Changes
06/03/2024	1.0	Initial Methodology Publication
02/13/2025	2.0	Addition of Section 1.1 – Supporting Benchmark Statement Documentation