



**NYSE<sup>®</sup> Bitcoin Index  
(NYXBT)**

Version 2.0  
Valid from  
March 21, 2018

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## Version History:

### Version 2.0 (Effective April 2, 2018)

This version incorporates language reflecting changes to the legal structure of the Index Administrator, codification of certain procedures relating to Index governance, consultation and index rule reviews and includes an updated Disclaimer. The timing around the effectiveness of any Index rule or methodology updates is also being updated. There is also additional language being provided in the published version of the methodology around the specific logic utilized to calculate the Index level.

### Version 1.3 (Effective September 1, 2017)

This version was released to update various language around the Index governance, due to the rebranding and assignment of the Index team responsible for the calculation and sponsorship to ICE Data Indices, LLC.

### Version 1.2 (Effective June 1, 2016)

This version was released to include the itBit Bitcoin Exchange as an additional exchange/venue whose bitcoin transaction data is included in the calculation of the Index. In addition, the Coinbase Exchange was rebranded to the GDAX Exchange.

### Version 1.1 (Effective September 1, 2015)

This version was released to implement a new logic and methodology for calculating the NYSE® Bitcoin Index (NYXBT) level.

**Version 1.01 (Effective May 26, 2015)**

This version was released to clarify language around the aggregation of trades for analysis (Step 2b / 2d) and the calculation of the standard deviation of the data set (Step 4).

**Version 1.0 (Effective May 18, 2015)**

This version was released to support the launch of a new Index, the NYSE® Bitcoin Index (NYXBT).

## 1. Index summary

<b>Factsheet</b>	
<b>Full Names</b>	NYSE® Bitcoin Index
<b>Index Types</b>	USD Index: NYXBT
<b>Index Description</b>	The NYSE Bitcoin Index aims to represent the value of (1) bitcoin in U.S. Dollars (USD) as of 4 PM U.K. time each weekday. The Index is calculated sourcing data from qualified exchanges, currently GDAX and itBit. Only bitcoin transactions conducted in USD are eligible to be input into the Index. Index data can be accessed from NYSE Market Data at <a href="http://www.nyse.com/market-data/indices">www.nyse.com/market-data/indices</a> .
<b>Calculation Frequency</b>	USD Index: Once-a-Day, calculated and published within 2 hours following 4 PM U.K. time each weekday
<b>Base Date</b>	May 18, 2015 (Index was not rebased historically to any specific level)
<b>Base Level</b>	237.03 (Index was not rebased historically to any specific level)
<b>Historic Data Available Since</b>	May 18, 2015
<b>Bloomberg Code</b>	NYXBT <INDEX>
<b>Reuters Code</b>	.NYXBT
<b>Launch Date</b>	May 18, 2015
<b>Website</b>	<a href="https://www.theice.com/market-data/indices">https://www.theice.com/market-data/indices</a>

## 2. Governance

### Index Sponsor & Administrator

ICE Data Indices, LLC (“IDI”) is the Index Sponsor and the Index Administrator.

IDI is responsible for the day-to-day management of the Index, including retaining primary responsibility for all aspects of the Index determination process, including implementing appropriate governance and oversight, as required under the International Organization of Securities Commission’s Principles for Financial Benchmarks (the IOSCO Principles). The Governance Committee is responsible for helping to ensure IDI’s overall compliance with the IOSCO Principles, by performing the Oversight Function which includes overseeing the Index development, design, issuance and operation of the indices, as well as reviewing the control framework. IDI is also responsible for decisions regarding the interpretation of these rules and the Governance Committee is responsible for reviewing all rule book modifications and Index constituent changes with respect to the Index to ensure that they are made objectively, without bias, and in accordance with applicable law and regulation and IDI’s policies and procedures. Consequently, all IDI’s and the Governance Committee discussions and decisions are confidential until released to the public.

### Cases not covered in rules

In cases which are not expressly covered in these rules, operational adjustments will take place along the lines of the aim of the Index. Operational adjustments may also take place if, in the opinion of the Index Administrator, it is desirable to do so to maintain a fair and orderly market in derivatives on this Index and/or this is in the best interests of the investors in products based on the Index and/or the proper functioning of the markets.

Any such modifications described under this section or exercise of Expert Judgment will also be governed by any applicable policies, procedures and Guidelines in place by IDI at such time.

### Rule book changes

The Governance Committee reviews all rule book modifications and Index changes to ensure that they are made objectively, without bias and in accordance with applicable law and regulation and IDI’s policies and procedures. These rules may be supplemented, amended in whole or in part, revised or withdrawn at any time in accordance with applicable law and regulation and IDI applicable policies and procedures. Supplements, amendments, revisions and withdrawals may also lead to changes in the way the Index is compiled or calculated or affect the Index in another way.

### Limitations of the Index

All the NYSE indices produced by IDI (the “NYSE Indices”) may be subject to potential limitations, such as a decline in the pool of available eligible securities due to advancements in technology,

shifts in demographic spending or the economy, changes in regulation or accounting rules, consolidation in certain sectors or industries, or other factors. Other limitations may include the ability of the Benchmark to operate in illiquid or fragmented markets.

By design, the Index is focused on representing the value of a specific cryptocurrency, bitcoin, in U.S. Dollars. As the underlying cryptocurrency markets transform due to potential consolidation in the exchange space and technology transformation, and due to potentially enhanced regulatory scrutiny, the methodology of the Index may be adjusted and changed accordingly.

IDI seeks to manage and mitigate these limitations through the Benchmark design, review and oversight process.

### **3. Index Description**

The NYSE Bitcoin Index (“NYXBT” or “Index”) aims to represent the value of (1) bitcoin in U.S. Dollars (USD) as of 4 PM U.K. time each weekday.

## **4. Publication**

### **4.1 The closing or daily publication of Index values.**

#### **Dissemination frequency**

The level of the Index is in principle published once daily to the ICE Data Global Index Feed (ICE Data GIF). The calculated Index levels incorporate the methodology outlined below, applied to all bitcoin trading activity on the exchanges included in the Index, up to and including 4 PM U.K. time.

The Index is calculated on those days specified as Index business days. Index business days will be classified as any weekday throughout the calendar year.

The Index will be published within 2 hours following 4 PM U.K. time. It will be published with (4) decimals, and will be rounded on the last digit.

#### **Closing level**

The closing level is the once-daily level disseminated on the trading day and uses the official Index methodology applied on the relevant exchange data to calculate the current value of bitcoin in U.S. Dollars. In the case of exceptional market conditions, the Index Administrator reserves the right to utilize other prices in the calculation of the official closing level, as indicated below in Section 4.2.

#### **Sources of Data**

There are currently (2) Exchanges/Venues whose bitcoin transaction data is included in the calculation of the Index:

- GDAX Exchange <https://www.gdax.com/>
- itBit Bitcoin Exchange <https://www.itbit.com/exchange>

### **4.2 Exceptional market conditions and corrections**

The Index Administrator retains the right to delay the publication of the level of the Index. Furthermore, the Index Administrator retains the right to suspend the publication of the level of the Index if it believes that circumstances prevent the proper calculation of the Index.

If Index constituent prices are cancelled, the Index will not be recalculated unless the Index Administrator decides otherwise.

Reasonable efforts are made to ensure the correctness and validity of data used in real-time Index calculations. If incorrect price data affects Index daily closing values, they are corrected retroactively as soon as possible and all revisions are communicated out to the public and market data vendors.

There is the possibility of an exchange or market-wide event resulting in the complete or partial unavailability of data required for the Index calculation. In those situations, the Index will take guidance from the respective exchange(s) and address on an event-by-event basis. In certain situations, the publication of the Index for that day may be suspended or delayed, or the methodology adjusted to reflect the data available for calculation. Exchange or market-wide events include, but are not limited to, the following:

- Technological Problems / Failures
- Natural Disaster or Other BCP-Related Event

### **4.3 Changes to the Index**

#### **Announcement policy**

Changes to the Index methodology will be announced by an Index announcement which will be distributed by IDI via <https://www.theice.com/market-data/indices> and NYSE Market Data at [www.nyse.com/market-data/indices](http://www.nyse.com/market-data/indices)

As a general rule, the announcement periods that are mentioned below will be applied. However, Emergency actions may require the Index Administrator to deviate from the standard timing.

#### **Rule changes**

Going forward, barring exceptional circumstances, the Index Administrator shall announce proposed Rules changes to stakeholders prior to them being implemented. Stakeholders shall also be notified of when the changes shall take effect.

#### **Index Reviews**

IDI shall undertake regular reviews of the Index, the methodology and the market which it represents to ensure it continues to meet the Index objective, in accordance with IDI's policies and procedures. Should changes to the Index be required or proposed, this will be communicated to stakeholders in accordance with IDI's policies and procedures.

#### **Consultations**

IDI may from time to time consult with stakeholders on proposed material changes that affect the Index in accordance with IDI's policies and procedures including IDI's consultation policy: [https://www.theice.com/publicdocs/Consultation\\_Policy.pdf](https://www.theice.com/publicdocs/Consultation_Policy.pdf). Such proposals shall be published to Stakeholders and all feedback received will be considered by the Index Administrator. Any resulting changes to the Index will be announced prior to it being implemented.



## **5. Calculation**

### **5.1 Calculation of the Index**

The NYSE Bitcoin Index will be calculated utilizing a proprietary, rules-based formula that is maintained and overseen internally by the IDI Governance Committee.

The logic utilized for the derivation of the daily Index level is intended to analyze a large amount of actual bitcoin transactional data, verify and refine the data set, and yield an objective, current market value of (1) bitcoin as of 4 PM U.K. time each weekday, priced in U.S. Dollars (USD).

The exact rules and logic utilized for the Index calculation is proprietary and not disclosed to the public.

### **5.2 Index Calculation Logic**

1. At 4 PM U.K. each Index Business Day, all bitcoin transaction data will be aggregated from exchanges and venues as outlined in Section 4.1 above. Data will include:
  - a. Time of Trade
  - b. Volume Transacted
  - c. Price of Transaction
2. Starting at 4 PM U.K. time, individual bitcoin trades will be aggregated by moving back a specific time range from the fixing time.
3. The trades aggregated within that time range will comprise the pool of data utilized in the calculation of the Index for that Index Business Day.
4. The data will be verified and cleansed by eliminating any trades with prices that fall outside a specific representative range of the price data set.
5. The data will be further verified and cleansed by capping any trade size over a specific representative trade size of the data set.
6. The remaining data will be utilized in the calculation of the Index level.
7. The data pool that is left will be time-weighted by dividing the pool into various groups and weighting them with a specific factor.
8. The Index level will be derived by calculating the VWAP (volume-weighted average price) of the remaining set of trades, as adjusted in Steps 1 through 7. This will be specifically equal to the sumproduct of all of the relevant trade prices and trade sizes (adjusted for the time-weighted multiplier), all divided by the total volume within our data set (once again, adjusted for the time-weighted multiplier for each trade).
9. The Index level will then be published to the ICE Data Global Index Feed (GIF) as per the specifications outlined in Section 4.1.

## **6. Exchange and trading platforms selection principle**

### **Index Universe**

Maintenance of the list of exchanges and trading venues whose data is incorporated into the calculation of the NYSE Bitcoin Index is undertaken by IDI. The Universe will consist of all exchanges and trading venues that execute trades in bitcoin. This determination is completed using publically available information on individual exchanges as well as the industry. Also instrumental in this determination is IDI employees' expertise concerning Index design and development and their knowledge surrounding Index use and stakeholder feedback. IDI may change the composition of the Universe at any time to reflect the conditions of the underlying bitcoin markets, and to ensure that the pool of exchanges and trading venues continues to represent the market, in accordance with the Index requirements. Although bitcoin can be traded on any number of exchanges and venues globally, only those exchanges that have met IDI's due diligence requirements and standards and are deemed to be reputable are qualified and eligible for having their trades input into the Index calculation. Exchanges currently included in the Index universe are specified in the Index Summary.

### **Selection of exchanges and trading venues**

The bitcoin transaction data utilized in the derivation of the Index will be sourced from selected third party exchanges and bitcoin trading venues. The addition and deletion of venues from the pool of data sourced into the Index will be overseen by the IDI Governance Committee.

The IDI Governance Committee will oversee such determinations and will evaluate a trading venue or exchange based upon the following criteria:

- Level of bitcoin transactional activity (Volume, Consistency)
- Reliability of data outputs and reporting
- Transparency of trading and trading rules on such exchange or venue
- Presence of any inherent bias in the bitcoin transactions or type of trading participants

In the event that a new data source is added to the Index methodology, IDI reserves the right to adjust the calculation of the Index accordingly, subject to review and approval by the IDI Governance Committee. Both the new source and any change in calculation methodology will be announced to the public in the manner outlined in Section 4.3.

## 7. Disclaimer

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