



Cboe® Gemini Bitcoin Futures Index



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Introduction

The Cboe Gemini Bitcoin Futures Index (“XBTX”) tracks the performance of a systematic strategy that holds a long position in Cboe XBTSM Bitcoin Futures (Ticker: XBT) that is rolled continuously throughout the period between the futures last trade dates to achieve a constant one-month XBT Futures position.

Index Construction

Calculation of the Cboe Gemini Bitcoin Futures Index

On any business day of the underlying XBT Futures, t , the Cboe Gemini Bitcoin Futures Index (“XBTX” or “Index”) is calculated as follows:

$$XBTX_t = XBTX_{t-1} * (1 + R_t) \tag{1}$$

where:

- $XBTX_{t-1}$ The Index on the preceding business day, defined as any date on which the Index is calculated;
- R_t Daily Return of XBT Futures position represented in the Index, as determined by the following formula:

$$R_t = (FPNV_t / FPNV_{t-1}) - 1 \tag{2}$$

where:

- t The current trading day;
- $t-1$ The preceding trading day;

$FPNV_t$ = Futures Portfolio Notional Value on t , as determined by the following formula:

$$FPNV_t = \sum_{i=m}^n DRP_{i,t} * FWGT_{i,t-1} \tag{3}$$

$FPNV_{t-1}$ = Futures Notional Value on $t-1$, as determined by the following formula:

$$FPNV_{t-1} = \sum_{i=m}^n DRP_{i,t-1} * FWGT_{i,t-1} \tag{4}$$

where:

- $DRP_{i,t}$ Daily Reference Price of the i^{th} XBT Futures Contract on date t ;
- $FWGT_{i,t}$ Roll Weight of the i^{th} XBT Futures Contract on date t ;
- m The near-term XBT Futures contract that is rolled out on date t ;

n The next-term XBT Futures contract that is rolled in on date t .

Contract Rebalancing

The Index is designed to roll the futures portfolio in equal parts each day at the close of trading during the “Roll Period.” The Roll Period starts after the close of trading on the Tuesday prior to the monthly XBT Futures Settlement Date (i.e., two business days before the third Friday of the month), and runs through the Tuesday prior to the next month’s XBT Futures Settlement Date. Thus, at the start of trading on each XBT Futures Settlement Date, the futures portfolio is comprised entirely (100%) of XBT Futures expiring in the next calendar month.

In calculating the Index, the Roll Weight ($FWGT_{i,t}$) of each of the XBT Futures contracts represented in the index, at the start of trading on a given day, t , are determined as follows:

$$FWGT_{m,t} = RD / TD$$

$$FWGT_{n,t} = (TD - RD) / TD$$

where:

TD = The total number of business days expected during the current Roll Period beginning with, and including, the starting XBT Futures Settlement Date and ending with, and including, the following XBT Futures Settlement Date. The number of business days stays constant unless there is an unscheduled market closure, a trading halt or a new holiday is introduced intra-month.

RD = The total number of business days remaining in the current Roll Period beginning with, and including, the following business day and ending with, but excluding, the following XBT Futures Settlement Date. The number of business days includes a new holiday introduced intra-month up to the business day proceeding such a holiday.

After the close on the Tuesday, corresponding to the start of the Roll Period, all of the weight is allocated to the shorter-term (i.e., m^{th} month) XBT Futures contract. Then on each subsequent business day a fraction of the m^{th} month XBT Futures contract holding is sold and an equal notional amount of the longer-term (n^{th} month) XBT Futures contract is bought. The fraction, or quantity, is proportional to the number of m^{th} month XBT Futures

contracts as of the previous index roll day, and inversely proportional to the number of business days expected in the current Roll Period. In this way the initial position in the m^{th} month XBT Futures contract is progressively moved to the n^{th} month over the course of the month, until the following Roll Period starts when the old n^{th} month XBT Futures contract becomes the new m^{th} month XBT Futures contract and gets rolled every day afterward as the process begins again.

In addition to the transactions described above, the weight of each Index component is also adjusted every day to ensure that the change in total dollar exposure for the Index is only due to the price change of each contract and not due to using a different weight for a contract trading at a higher price.



Index Governance

Index Advisory Oversight Body

The Index Advisory Oversight Body (“IAOB”) reviews and approves all material and non-material changes to the Cboe Gemini Bitcoin Futures Index. All members of the Oversight Body are full-time professionals at Cboe Global Markets. The Oversight Body holds regular quarterly meetings, and also meets more frequently, as needed. At each meeting, the Oversight Body reviews any significant market events, and makes a determination that the Cboe Gemini Bitcoin Index continues to meet its stated investment objectives.

Please refer to www.cboe.com/index for more information.

Index Policies

Holiday Schedule

The Indices are calculated daily from 8:30 AM CT to 3:15 PM EST, excluding holidays and weekends. A complete holiday schedule for the year is available at www.cboe.com/Index.

Rebalancing

The IAOB may change the date of a given rebalancing for reasons including unscheduled market holidays occurring on or around the scheduled rebalancing date. Any such change will be announced with proper advance notice, whenever possible.

Unscheduled Exchange Closures, Trading Halts and New Holidays

The futures portfolios represented by the Index is generally deemed “rolled” at the close of trading on every business day during the Roll Period, as described in the Contract Rebalancing section, which is shown in the following table that assumes a Roll Period of 20 days:

Days Remaining in Period	Days in Period	Start of Day		EOD After Futures Roll	
		Near-term Futures Wgt.	Next-term Futures Wgt.	Near-term Futures Wgt.	Next-term Futures Wgt.
20 (Settlement)	20	100.0%		95.0%	5.0%
19	20	95.0%	5.0%	90.0%	10.0%
18	20	90.0%	10.0%	85.0%	15.0%
17	20	85.0%	15.0%	80.0%	20.0%
16	20	80.0%	20.0%	75.0%	25.0%
15	20	75.0%	25.0%	70.0%	30.0%
14	20	70.0%	30.0%	65.0%	35.0%
13	20	65.0%	35.0%	60.0%	40.0%
12	20	60.0%	40.0%	55.0%	45.0%
11	20	55.0%	45.0%	50.0%	50.0%
10	20	50.0%	50.0%	45.0%	55.0%



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9	20	45.0%	55.0%	40.0%	60.0%
8	20	40.0%	60.0%	35.0%	65.0%
7	20	35.0%	65.0%	30.0%	70.0%
6	20	30.0%	70.0%	25.0%	75.0%
5	20	25.0%	75.0%	20.0%	80.0%
4	20	20.0%	80.0%	15.0%	85.0%
3	20	15.0%	85.0%	10.0%	90.0%
2	20	10.0%	90.0%	5.0%	95.0%
z	20	5.0%	95.0%		100.0%
0 (Settlement)	20		100.0%		

In situations where XBT Futures are unavailable for trading at the close on any business day – and the futures roll cannot be completed on that day – due to a trading halt, unscheduled Exchange closure, new holiday or other unforeseen disruption of regular trading, Cboe Global Indexes shall calculate the values of the Index based on the most recent futures prices published by the Cboe Futures Exchange (CFE); and the roll for that day shall be carried to the first CFE business day on which XBT Futures are available at the close of trading.

If CFE fails to open on a scheduled business day, due to unforeseen circumstances or CFE introduces an unplanned holiday, Cboe Global Indexes may determine not to publish the Index for that day; and the roll for that day shall be carried to the first CFE business day on which XBT Futures are available at the close of trading, as described below.

In the event that the futures roll cannot be completed on any business day, the remaining Roll Weights during the remaining days of the Roll Period shall be adjusted such that the portfolio weights of XBT Futures at the time of the disruption are rolled in equal parts over the remaining days in the Roll Period, as shown in the following table that assumes that the futures roll cannot be completed for two consecutive days.

Days Remaining in Period	Days in Period	Start of Day		EOD After Futures Roll	
		Near-term Futures Wgt.	Next-term Futures Wgt.	Near-term Futures Wgt.	Next-term Futures Wgt.
20 (Settlement)	20	100.0%		95.0%	5.0%
19	20	95.0%	5.0%	90.0%	10.0%
18	20	90.0%	10.0%	85.0%	15.0%
17	20	85.0%	15.0%	80.0%	20.0%
16	20	80.0%	20.0%	75.0%	25.0%
15	20	75.0%	25.0%	70.0%	30.0%
14	20	70.0%	30.0%	65.0%	35.0%
13	20	65.0%	35.0%	60.0%	40.0%
12	20	60.0%	40.0%	Trading Halt at Close	
11	19	Unscheduled Market Close			
10	18	60.0%	40.0%	54.0%	46.0%
9	18	54.0%	46.0%	48.0%	52.0%
8	18	48.0%	52.0%	42.0%	58.0%
7	18	42.0%	58.0%	36.0%	64.0%
6	18	36.0%	64.0%	30.0%	70.0%
5	18	30.0%	70.0%	24.0%	76.0%
4	18	24.0%	76.0%	18.0%	82.0%
3	18	18.0%	82.0%	12.0%	88.0%
2	18	12.0%	88.0%	6.0%	94.0%
1	18	6.0%	94.0%		100.0%
0 (Settlement)	18		100.0%		



Delisting of Futures Contracts

If one or more XBT Futures contracts included in the Index is no longer listed, Cboe Global Indexes may choose to cease publication of the effected Index at that time.

Contact Information

For questions regarding the indices, please contact: indexes@cboe.com.

Index Dissemination

Index levels are available through Cboe Global Markets website www.cboe.com/Index, major quote vendors (see codes below), numerous investment-oriented websites, and various print and electronic media.

<u>Vendor</u>	<u>Index Symbol</u>
Activ Financial	XBTX
Bloomberg	XBTX <Index>
CQG	X.XBTX
Factset	XBTX
IDC	I:XBTX
LiveVol	^XBTX
Pico	\$XBTX
Telekurs - Six Group	XBTX
Vela SuperFeed	XBTX
Thomson One	XBTX-UT
Thomson Eikon	.XBTX
Tradestation	\$XBTX.X



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