

BlockState

CTF 15

STRATEGY

Construction & Methodology

www.blockstate.com

[Table of Content](#)

1. INTRODUCTION	3
1.1 CTF 15 STRATEGY.....	3
1.2 ABOUT BLOCKSTATE.....	3
2. PORTFOLIO CONSTRUCTION.....	4
2.1 CONSTITUENT ASSETS	4
2.2 WEIGHTING	4
3. METHODOLOGY.....	4
3.1 PRICE	4
3.2 SUPPLY	5
3.3 LIQUIDITY RULE.....	5
3.4 PUBLICATION.....	5
4. RECONSTITUTION & METHODOLOGY CHANGE	6
4.1 NORMAL RECONSTITUTION AND REBALANCE	6
4.2 REBALANCE IN CASE OF FORK EVENTS	6
5. CURRENT CONSTITUENT ASSETS AND DATA SOURCES	7

1. Introduction

1.1 CTF 15 Strategy

The CTF 15 strategy ("CTF15") is designed as a representative, transparent and rules based investment strategy for investors looking to get exposure to the global crypto currency market. CTF15 tracks the performance of the largest 15 cryptocurrencies by market capitalization. Each component is weighted by market capitalization, defined as price multiplied by outstanding supply.

Investor Benefits

- Diversification - improved risk/return characteristics compared to single crypto currency investments.
- Transparency - daily NAV publication with intraday valuation available on demand. Rules based, non-discretionary investment strategy with full disclosure to investors.
- Easy access - CTF15 will initially be offered as tracker certificate to provide easy access for traditional investors. No need for investors to set up any crypto specific infrastructure.
- No issuer risk - investor assets are ring fenced in a separate SPV and are not exposed to any operational risk at BlockState.

1.2 About BlockState

BlockState builds efficient, transparent and compliant products for the financial market using Blockchain technology.

As a technology facilitator, we enable financial institutions to offer better products and services to their clients. Our platform creates easy access to crypto markets and enables trading of real-world financial assets on a Blockchain powered platform. We are the bridge between the traditional world of finance and Blockchain technology.

The BlockState team brings management and financial expertise, tech talent, regulatory experience and a proven track record in scaling big businesses to the company. Our executive team & advisory board comprises seasoned experts from the likes of Credit Suisse, FTSE, Nomura, PWC, Airbnb, and the Humboldt University.

BlockState has been endorsed by an international network of investors.

BlockState is a brand of CTF Markets AG.

2. Portfolio Construction

2.1 Constituent Assets

In order to determine the initial portfolio constituents, we rank all existing crypto asset by market capitalisation from largest to lowest. Market capitalisation is defined as price multiplied by the existing supply of coins at this point in time. We then perform a liquidity test on the ranked crypto assets to ensure that they are sufficiently liquid in order to be traded efficiently. From this list we chose the 15 highest ranked crypto assets, which also pass the liquidity test, as constituents.

2.2 Weighting

Each constituent of the CTF15 is weighted by its market capitalization relative to the combined market capitalisation of all constituents. In order to avoid high exposures to any single constituent, we apply a cap of 30% to the weight of any single constituent. If a constituent exceeds this threshold, its excess weight will be redistributed to all other constituents proportionately to their existing weights. This procedure is repeated until no constituent exceeds the cap.

3. Methodology

3.1 Price

For the purpose of portfolio construction, the price for each asset is defined as the moving average price of the last 2 minutes on the Decentralized Calculation Agent (DCA). Prices will be sourced from a variety of crypto asset exchanges as detailed in section 5.

If trading is suspended for any reason, CTF 15 will continue to be calculated based on the last traded price before trading was suspended. CTF15 will be calculated based on new traded prices once trading commences again.

Further information regarding DCA available upon request or on: blockstate.com/decentral-calculation-agent

BlockState

[3.2 Supply](#)

The supply of each constituent asset is defined as the total number of units that have been created since the first block on the asset's blockchain, adjusted by stated and/or validated burned, frozen or non-spendable coins/tokens and free-float adjustments. Supply is mostly measured directly by querying a full node running on the blockchain of each constituent asset, maintained by Blockstate. Further details can be found in section [5](#).

Unlike traditional assets, for digital assets it is difficult to objectively determine the number of units actually available for purchase by investors, because there is no record of identity of the owners or holders of each asset. Therefore, it is difficult to determine whether or not any particular unit of an asset is available for trading. For example, the private keys corresponding to the public address of those units could be lost or destroyed, meaning that these units are not available for trading. Therefore, CTF 15 reflects total circulating supply with verifiable, published adjustments.

[3.3 Liquidity Rule](#)

To ensure that constituents are sufficiently liquid to be traded efficiently, we measure the average daily traded volume (ADTV) of each constituent over the past 30 calendar days. To pass the liquidity test, the ADTV of an asset must exceed 0.25% of its market capitalisation on at least 24 days of the 30-day test period.

$$ADTV_{it} \geq MC_{it} \times 0.0025$$

MC_{it} = Market capitalisation of asset i on day t

$ADTV_{it}$ = Average daily traded volume of asset i on day t

If an asset does not have 30 days of trading history, then the liquidity test will be conducted based on the available history and the threshold for passing the test will be adjusted proportionately. An asset needs to have a minimum of 7 days of trading history.

[3.4 Publication](#)

Free CTF15 live and historical pricing will be calculated and published at blockstate.com/decentral-calculation-agent/

4. Reconstitution & Methodology Change

4.1 Normal Reconstitution and Rebalance

The CTF15 is reconstituted and rebalanced monthly on the first business day of each month. The period of one month has been chosen to ensure that developments in the fast-moving global crypto currency market are being captured timely and accurately.

4.2 Rebalance in case of Fork Events

Should a hard/soft fork event occur which affects a constituent of CTF15, then the strategy will be reconstituted 7 calendar days after the initial listing of the forked currency, if it fulfils the CTF15 inclusion criteria of market capitalisation and liquidity.

If a crypto ceases to exist while it is a constituent of the CTF15, then the CTF15 will use the latest available price for this constituent until the next rebalance date.

5. Current Constituent Assets and Data Sources ¹

Asset	Ticker	Price Data	Supply Data	Rank
Bitcoin	BTC	Bitfinex, Kraken, Coinbase, HitBTC	Bitcoin full node	1
Ethereum	ETH	Bitfinex, Kraken, Coinbase, HitBTC	Geth node	2
Ripple	XRP	Bitfinex, Kraken	Ripple API, published by the Ripple Corporation	3
Bitcoin Cash	BCH	Bitfinex, Kraken, Coinbase, HitBTC	Bitcoin ABC Node	4
EOS	EOS	Bitfinex, Kraken	Nodeos node	5
Stellar	XLM	Bitfinex, Kraken	100mn at creation, 1% per year, witnessed by watcher node	6
LiteCoin	LTC	Bitfinex, Coinbase, Kraken, HitBTC	Litecoin full node	7
Tether	USDT	Kraken, Bitfinex	Tether Audit Statements	8
Cardano	ADA	Binance	Cardano SL	9
IOTA	MIOTA	Bitfinex	Fixed number of Coins: 2,779,530,283,277,761 (source: whitepaper)	10
TRON	TRX	Bitfinex	99,000,000,000 fix coins, burns some over time.	11
Monero	XMR	Bitfinex, Kraken	Monero mining node	12
Dash	DASH	Bitfinex, Kraken	Dash miner and formula from here: https://coinsutra.com/dash-cryptocurrency/#Dash_Coin_Supply	13
NEO	NEO	Bitfinex	100mn supply, released over time. Witnessed by full node, address of genesis miner is monitored when releases happen	14
Ethereum Classic	ETC	Bitfinex, Kraken	Geth full node	15
NEM	XEM	Bitfinex	Fixed supply: 8,999,999,999 (source: whitepaper). Will be witnessed by running full node	
Binance Coin	BNB	Binance	200mio, burn until 100mio (erc20 token -> geth for monitoring)	
ZCash	ZEC	Bitfinex	zcash full node	

Additional price data for: XTZ, PPC, VERI, HTML, ZPT, XMC

¹ As of 30-August-2018